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Federal Scientists and Engineers: 1989-93

Special Report

Division of Science Resources Studies
Directorate for Social, Behavioral and Economic Sciences
National Science Foundation
NSF 95-336

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Federal Scientists and Engineers: 1989-93

Special Report

John Tsapogas, Project Officer

Division of Science Resources Studies
Directorate for Social, Behavioral and Economic Sciences

National Science Foundation

NSF 95-336

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FOREWORD

This report has two main objectives: (1) it draws together general and statistical information that shed light on the character and status of Federal scientists and engineers by presenting a new body of statistical data, and (2) it examines the data to determine the character of Federal scientific and engineering employment over the 1989-93 period.

The report is divided into eight sections and provides a descriptive analysis of various characteristics of Federal scientists and engineers, including the agency of employment, primary work activity, educational attainment, age, salary, and geographic patterns of the Federal science and engineering (S&E) workforce.

Finally, the report presents data on Federal scientists and engineers based on a new occupational classification system developed within the National Science Foundation's Division of Science Resources Studies on the U.S. science and engineering workforce. The new system allows our readers to compare data on the occupations of Federal scientists and engineers with occupational data collected from other NSF surveys of the U.S. science and engineering workforce.

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ACKNOWLEDGMENTS

This report was developed within the Division of Science Resources Studies by John Tsapogas, Senior Science Resources Analyst, Science and Engineering Personnel Program (PER), with the assistance of Simone Keith, Statistical Administrative Assistant, under the direction of Dr. Carlos Kruytbosch, Program Director, PER. Guidance and review were provided by Dr. Kenneth M. Brown, Director, Division of Science Resources Studies.

The data used in this report were prepared from data collected on the Federal civilian workforce by the Office of Workforce Information, Office of Personnel Management, with valuable support provided by Christine Steele.

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EXECUTIVE SUMMARY

Employment of Federal scientists and engineers rose from 185,623 in 1989 to 196,908 in 1993, 6.1 percent growth. U.S. scientists and engineers employed in science and engineering (S&E) jobs increased an estimated 10.6 percent. Overall U.S. civilian employment during 1989-93 increased by 1.7 percent. In 1989, the Federal S&E workforce consisted of 89,530 scientists and 96,093 engineers. By 1993, scientists (101,348) surpassed engineers (95,560).

During 1989-93, among Federal scientists, social scientists had the largest increase (17.8 percent), followed by life scientists (16.6 percent), computer and mathematical scientists (15.4 percent), and physical scientists (3.9 percent). Overall employment of engineers decreased by 0.6 percent during this period. Among the major engineering occupational groups, the employment change ranged from a decrease of 21.3 percent for industrial engineers to an increase of 4.0 percent for electrical, electronics, and computer engineers.

Over the 1989-93 period, the change in Federal S&E employment varied by agency. The largest decrease during the period occurred within the Department of Defense (DOD), where S&E employment decreased by 2.2 percent. In 1993, 46.8 percent of all Federal scientists and engineers were employed by DOD, down from 50.7 percent in 1989. Declining defense spending during 1989-93 paralleled a decrease of S&E employment at DOD. The 4-year employment growth for all other agencies (excluding DOD) was 14.6 percent.

The distribution of work activities of Federal scientists and engineers changed during 1989-93. Scientists and engineers employed in primary work activities associated with defense functions decreased during the period. Scientists and engineers decreased their activities involving design; installation, operations, and maintenance; planning; production; construction; and standards and specifications. Primary work activities showing increasing importance in Federal scientific and engineering employment during 1989-93 included clinical practice, counseling, and ancillary medical practice; teaching and training; scientific and technical information; regulatory enforcement or licensing; natural resource operations; and technical assistance and consulting. Employment of scientists and engineers engaged in research and development showed slow growth throughout the period, but R&D continued to be the largest work activities for the Federal S&E workforce.

The average age of Federal scientists and engineers increased slightly during 1989-93. In 1989, 25.1 percent of the scientists employed by the Federal Government were under the age of 35 and 10.6 percent were 55 or older. By 1993, 22.6 percent of the scientists were under the age of 35 and 11.5 percent were 55 or older. Further, in 1989, 42.1 percent of the engineers were under the age of 35 and 11.5 percent were 55 or older. In 1993, however, only 38.3 percent of the engineers were under the age of 35 and 12.9 percent were 55 or older. Federal scientists and engineers employed in development or design work were likely to be younger than those employed in research.

The number of female scientists and engineers employed in the Federal Government increased by 27.3 percent between 1989 and 1993, from 29,328 to 37,341. By contrast, the number of male scientists and engineers grew by only 2 percent over the same period. Despite higher growth for women, in 1993 women accounted for only 27.3 percent of all scientists and 10.1 percent of all engineers (up from 23.6 percent and 8.6 percent in 1989, respectively).

The number of Federal scientists and engineers who are members of ethnic/racial minority groups rose 18.3 percent between 1989 and 1993, from 26,052 to 30,810. Most of this increase represents growth in the numbers of Asians, which rose from 9,866 to 11,930, or 20.9 percent, during the period. Black scientists and engineers increased by 15.1 percent and Native Americans grew 34.4 percent. Hispanics showed a 19.9-percent increase, rising from 5,331 in 1989 to 6,394 in 1993.

The median annual base salaries of Federal scientists and engineers increased 21.9 percent, from $41,100 to $50,100, during 1989-93. By contrast, the average annual weekly earnings in private nonagricultural establishments rose only 12 percent during the same period.[1] The median salaries for engineers were higher than those for scientists, and the rise in salaries for engineers (24.5%) outpaced that for scientists (19.1%).

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[1] U.S. Bureau of the Census, *Statistical Abstract of the United States: 1994* (114th edition), Washington, DC, 1994, p. 420.

The South Atlantic Region[2] led the country in the number of Federal scientists and engineers: 36 percent of the Nation's federally employed scientists and engineers worked in this region (mostly in Maryland and the District of Columbia, which accounted for 31.5 percent and 24.6 percent of the region's total, respectively). The Pacific Region was the second-largest region, with 16 percent of the total number of Federal scientists and engineers (almost 62.7 percent of the region's Federal scientists and engineers work in California). By contrast, New England was the smallest region, with 3.8 percent of the Federal S&E total. Massachusetts accounted for 44.2 percent of all Federal scientists and engineers in New England.

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[2] See table 12 for listing of States within the regions identified in this section.

SECTION 1. EMPLOYMENT OF FEDERAL SCIENTISTS AND ENGINEERS

LEVELS AND TRENDS

Employment of Federal scientists and engineers increased from 185,623 in 1989 to 196,908 in 1993, or by 6.1 percent. Over the same period all U.S. scientists and engineers employed in S&E jobs increased an estimated 10.6 percent. Overall U.S. civilian employment during 1989-93 increased by 1.7 percent (table 1).

Table 1. Federal scientists and engineers by major occupational group: 1989-93

Occupation	1989	1990	1991	1992	1993
Total, All S&E occupations	185,623	189,049	194,726	198,853	196,908
All scientists	89,530	92,467	96,919	101,006	101,348
Computer & mathematical scientists	25,737	26,725	28,210	29,371	29,691
Life scientists	23,082	24,009	25,280	26,765	26,920
Physical scientists	23,204	23,725	24,140	24,427	24,118
Social scientists	17,507	18,008	19,289	20,443	20,619
All engineers	96,093	96,582	97,807	97,847	95,560
Aerospace engineers	8,433	8,624	8,777	8,584	8,330
Chemical engineers	1,503	1,413	1,344	1,311	1,245
Civil engineers	13,945	13,621	13,357	13,231	12,874
Electrical, electronics & computer engineers	31,121	31,899	32,753	32,955	32,374
Industrial engineers	3,463	3,419	3,173	3,016	2,725
Mechanical engineers	12,186	11,787	11,763	11,532	11,159
Other engineers	25,442	25,819	26,640	27,218	26,853

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

The relatively small increase in Federal science and engineering employment was part of the modest increase in overall Federal employment. Federal full-time civilian white collar employees, which include Federal scientists and engineers, increased by only 1.2 percent. In 1993 the number of scientists (101,348) surpassed the number of engineers (95,560). Scientists accounted for 48.2 percent of the Federal scientific and engineering workforce in 1989, gradually increasing to 51.5 percent in 1993. Among scientists, social scientists grew the most (17.8 percent). Growth in two other major scientific occupational series was also high—life scientists increased by 16.6 percent, and computer and mathematical scientists increased by 15.4 percent. Physical scientists showed the lowest growth, 3.9 percent.

Employment trends of the various engineering occupational series were generally negative. Overall employment of engineers decreased by 0.6 percent during 1989-93. Only one major engineering occupational group enjoyed employment growth during the period of analysis—electrical, electronics, and computer engineers, which increased by 4 percent. All other major occupational groups in engineering decreased, with the largest decline being among industrial engineers (21.3 percent).

MOBILITY

Data on the mobility of scientists and engineers in the Federal Government are not available. However, if we examine the proportion of those employed in an occupational group who also held their highest degree in a field related to their occupational group, we can infer some conclusions concerning mobility.

If an occupational group has a large portion of employees holding their highest degree in a field similar to the field of the occupational group, it may mean that entry into the group is rigid and dependent on the field of degree. Conversely, a lower proportion indicates that entry is flexible and that educational training in one of a variety of degree fields is acceptable for entry.

Across most scientific and engineering occupations in the Federal Government, a large portion of those employed in a particular field also hold their degree in that field. In 1993, 72 percent of scientists employed in the Federal Government had their highest degree in a scientific discipline, whereas 86.3 percent of the engineers had their highest degree in engineering (table 2). In two occupational categories, fewer than 61 percent of Federal scientists and engineers had their highest degree in a field corresponding to their occupational field. The occupations include computer and mathematical scientists (41.2 percent) and social scientists (60.3 percent). In 1993 a significant proportion of computer and mathematical scientists (11 percent) had their highest degree in one of the social sciences and a large proportion had degrees in non-S&E fields (35.7 percent). A large proportion of those working as social scientists had their highest degree in non-S&E fields (34.8 percent).

COMPARISONS WITH OTHER SECTORS

The proportion of all U.S. scientists and engineers employed by the Federal Government is small and declining. In 1989 7.3 percent of all scientists and engineers were employed by the Federal Government, with the proportion decreasing to 7.0 percent in 1993 (table 3). However, the growth in the number of Federal scientists and engineers (6.1 percent) is higher than that for all Federal civilian white collar employees (1.2 percent). The growth in employment of R&D scientists and engineers (2.3 percent) did not keep pace with the growth for all Federal scientists and engineers (6.1 percent).

Table 2. Proportion of Federal scientists and engineers whose occupational group is the same as their field of degree: 1993

Occupation	Percent	
	1989	1993
All S&E occupations	85.2	84.1
All scientists	73.0	72.0
Computer & mathematical scientists	40.3	41.2
Life scientists	75.3	72.2
Physical scientists	69.8	69.2
Social scientists	59.9	60.3
All engineers	86.2	86.3
Aerospace engineers	86.2	87.4
Chemical engineers	88.3	87.2
Civil engineers	93.5	92.7
Electrical, electronics & computer engineers	84.5	84.6
Industrial engineers	75.7	83.0
Mechanical engineers	92.3	91.8
Other engineers	82.7	83.0

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

In 1989 research or development was the primary work activity of 27 percent of all Federal scientists and engineers. By 1993 this percentage had decreased slightly, to 26 percent. Federal support for research and development is one of the most important factors affecting Federal Government employment of scientists and engineers. During the period covered in this report there was a significant increase reported in the Federal R&D intramural budget—the actual intramural performance of R&D supported by Federal agencies. But although the Federal intramural R&D budget grew by 10 percent, the growth amounted to a very small increase when adjusted for inflation.

Table 3. Comparison of Federal scientific and engineering employment with other demographic and economic variables: 1989-93

Year	Federal scientists and engineers	Federal R&D scientists and engineers	U.S. scientists and engineers (thousands)[1]	Federal civilian white-collar employment [2, 3]	U.S. civilian employment (thousands)[4]	U.S. labor force (thousands)[4]	Noninstitutional population (thousands)[4]	Federal R&D obligations (millions of dollars)	Federal R&D intramural obligations (millions of dollars)
1989	185,623	50,033	2,534	1,775,658	117,342	125,557	188,081	61,407	15,121
1990	189,049	50,571	2,652	1,791,875	117,914	126,424	189,686	63,688	16,003
1991	194,726	49,270	2,679	1,832,403	116,877	126,867	191,329	61,295	15,238
1992	198,853	52,545	2,706	1,831,286	117,598	128,548	193,142	70,368	16,635
1993	196,908	51,199	2,802	1,797,289	119,306	129,525	195,034	71,445	16,643

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files, except as noted

[1] Compiled from data provided by the Bureau of Labor Statistics from The Occupatuional Employment Matrix. Data were not available for odd numbered years and have been interpolated from even numbered years. The Occupational Employment Matrix data mearsure the number of jobs in the economy, not the number of people holding those jobs. Postsecondary teachers of science and engineering are not included in the data.

[2] The data include all civilian full-time, white-collar employees working for the Federal Government.

[3] Excludes the U.S. Postal Service

[4] Data obtained from The Statistical Abstract of the United States: 1994, page 395.

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SECTION 2. CHARACTER OF FEDERAL SCIENCE AND ENGINEERING EMPLOYMENT

In this section we examine the number of employed Federal scientists and engineers by agency and work activity, with emphasis on the agencies with the largest number of Federal scientists and engineers. Research, development, and design, together with data collection, processing and analysis, and natural resource operations are the major work activities of Federal scientists and engineers. In 1993, the Department of Defense (DOD), the U.S. Department of Agriculture, the Department of the Interior, and the National Aeronautics and Space Administration employed almost three-quarters of all Federal scientists and engineers. Work activity and agency of employment are indicators of the character of the Federal science and technology establishment. Whereas the overall number of Federal scientists and engineers increased, their numbers declined in the defense agencies and increased in most nondefense agencies. This shift resulted in a decrease in the number of scientists and engineers engaged in defense R&D.

EMPLOYMENT GROWTH

During 1989-93, employment of scientists and engineers in DOD decreased by 2.2 percent. All other agencies increased by 14.1 percent. Within DOD the number of Federal scientists and engineers employed in the Department of Army decreased by 4.7 percent, followed by the Navy (-3.6 percent), and the Air Force (-1.3 percent). Other Defense agencies, which account for a smaller portion of DOD's share of Federal scientists and engineers, increased significantly (34.8 percent) (table 4).

The large DOD decrease reflected weakened demand within DOD for engineers and scientists to work on various defense-related activities (e.g. research; design; production; and installation, operations, and maintenance). Despite the decrease in the number of scientists and engineers at DOD during 1989-93, DOD continued to maintain the largest share of Federal S&E human resources.

Most nondefense agencies, such as the Departments of Commerce, Energy, Health and Human Services, Housing and Urban Development, Interior, Justice, Labor, State, Treasury, Transportation, Veterans Affairs, the Environmental Protection Agency, and the Nuclear Regulatory Commission, showed higher than average growth during 1989-93.

Table 4. Employment change and five year growth rate of Federal scientists and engineers, by selected agency: 1993

Agency	5-Year growth rate	Employment change
TOTAL	6.1 %	11,285
Department of Agriculture	5.3 %	889
Department of Commerce	12.8 %	998
Department of Defense	- 2.2 %	- 2,031
Department of the Army	- 4.7 %	- 1,657
Department of the Navy	- 3.6 %	- 1,426
Department of the Air Force	- 1.3 %	- 221
Other Defense Agencies	34.8 %	1,273
Department of Energy	33.7 %	1,294
Department of HHS	18.4 %	1,493
Department of HUD	12.8 %	50
Department of the Interior	13.5 %	1,604
Department of Justice	63.6 %	1,004
Department of Labor	13.2 %	250
Department of State	18.2 %	524
Department of Transportation	19.3 %	882
Department of the Treasury	37.6 %	945
Department of Veterans Affairs	21.7 %	954
Environmental Protection Agency	24.0 %	1,558
General Services Administration	32.0 %	237
NASA	4.2 %	504
National Science Foundation	- 13.0 %	- 49
Nuclear Regulatory Commission	9.3 %	136
US Intl Development Coop Agency	- 19.7 %	- 115
All other agencies	5.0 %	158

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

The relative importance of each agency in providing employment opportunities for scientists and engineers varied significantly. In 1993, the Department of Defense employed 66.9 percent of all Federal engineers but only 27.9 percent of all Federal scientists. The U.S. Department of Agriculture, the second-largest employer of Federal scientists and engineers, employed 15.3 percent of all Federal scientists and 2.3 percent of all Federal engineers. The agencies with the largest populations of Federal scientists and engineers are discussed in the agency sections that follow.

WORK ACTIVITIES

Scientists and engineers employed in primary work activities associated with defense programs decreased more rapidly than those employed in nondefense work activities during 1989-93. The proportion of Federal scientists and engineers engaged in development decreased slightly, from 15.5 percent in 1989 to 15.0 percent in 1993. The proportion employed in design activities decreased from 8.2 percent in 1989 to 7.2 percent in 1993, whereas those engaged in installation, operations, and maintenance decreased from 6.2 percent in 1989 to 5.8 percent in 1993. Test and evaluation; technical assistance and consulting; regulatory enforcement or licensing; clinical practice, counseling, and ancillary medical service; and scientific and technical information all increased in relative importance during 1989-93. Nevertheless, research (11 percent) and development (15 percent) activities continued to be the major work activities of Federal scientists and engineers in 1993 (appendix table B-2).

WORK ACTIVITIES BY MAJOR AGENCIES

Changes in primary work activities reflect shifts in employment and work activity patterns within individual agencies. To better understand activities within the Federal sector, we examine the agencies with the largest number of scientists and engineers.

Department of Defense

The number of scientists and engineers employed at DOD decreased during 1989-93. This drop was accompanied by significant decreases in certain occupational groups and certain primary work activities.

Over the 4-year period, employment of engineers at DOD decreased while that for scientists increased. The occupations with the highest growth included life scientists (30.9 percent), social scientists (11.2 percent), and computer and mathematical scientists (4.8 percent). All engineering occupations showed decreases except for electrical, electronics, and computer engineers, which showed a small increase during the period.

There was a slight shift in the primary work activities of DOD scientists and engineers over the period 1989-93. In general, those employed in 1993 were less likely to be employed in activities such as research, design, management, planning, data collection processing and analysis, standards and specifications, production, and construction, and more likely to be employed in activities such as development; test and evaluation; regulatory enforcement and licensing; clinical practice, counseling, and ancillary medical services; and scientific and technical information.

Department of Agriculture

Employment of Federal scientists and engineers at USDA reached 17,764 in 1993, or 9 percent of all Federal scientists and engineers. This number was up from 16,875 and represents an increase of 5.3 percent. The growth was accompanied by some shifts in both occupational groups and work activities. For instance, as a proportion of total science and engineering employment at USDA, the number of scientists increased from 86.4 percent in 1989 to 87.5 percent in 1993.

The occupational distribution of scientists and engineers at the U.S. Department of Agriculture (USDA) changed over the 4-year period covered in this report. The growth of USDA scientists was 6.6 percent, whereas engineers decreased by 3.0 percent. Among the individual occupational series, computer and mathematical scientists showed the most rapid growth (23.8 percent), followed by electrical, electronics, and computer engineers (23.7 percent), and social scientists (8.7 percent). Notably slower growth was recorded by life scientists (5.9 percent) and chemical engineers (5.3 percent). Decreases in employment were recorded for civil engineers (5.9 percent), physical scientists (4.0 percent), and mechanical engineers (2.6 percent).

Work activities of scientists and engineers employed at USDA shifted during 1989-93. Scientists and engineers employed at USDA were less likely to be employed in research, design, planning, technical assistance and consulting, and construction and more likely to be employed in development; test and evaluation; management; installation, operations and maintenance; and natural resource operations. Natural resource operations was the largest primary work activity (51.8 percent of all USDA scientists and engineers in 1993). During 1989-93 the number of scientists and engineers at USDA engaged in this work activity increased by 10.2 percent.

Department of the Interior

The number of scientists and engineers employed at the Department of the Interior increased by 13.5 percent during 1989-93, from 11,846 in 1989 to 13,450 in 1993. There were also some shifts in the occupational mix and the work activities of those employed. The scientists and engineers at Interior made up approximately 6.8 percent of all Federal scientists and engineers in 1993, up from 6.4 percent in 1989.

Excluding chemical engineers, all major occupational series increased in number at the U.S. Department of the Interior over the 4-year period covered in this report. Scientists increased by 16.7 percent, whereas engineers increased by a lower amount, 2.8 percent. Among individual occupational series, life scientists showed the most rapid growth (31.8 percent), followed by computer and mathematical scientists (29.8 percent), social scientists (19.9 percent), industrial engineers (13.3 percent), and mechanical engineers (12.9 percent). Notably slower growth was recorded by physical scientists (2.0 percent), civil engineers (3.6 percent), and electrical, electronics, and computer engineers (7.5 percent). Negative growth was recorded for chemical engineers (8.2 percent).

There was a shift in the primary work activities of scientists and engineers employed at Interior during 1989-93. Those employed in 1993 were more likely to be engaged in activities such as natural resource operations, technical assistance and consulting, development, management, planning, scientific and technical information, research, construction, and test and evaluation.

The largest number of scientists and engineers at Interior were engaged in natural resource operations, and they increased by 33.5 percent during 1989-93. In 1993, 18.3 percent of Interior's scientific and engineering workforce was conducting research, down from 19.2 percent in 1989. This portion of Interior's workforce experienced moderate growth between 1989 and 1993 (7.8 percent). The next largest group was employed in data collection, processing, and analysis. In 1993 there were 2,200 scientists and engineers at Interior in this category, up from 2,029 in 1989, representing an increase of 8.4 percent. Scientists and engineers in planning accounted for only 6.2 percent of Interior's S&E workforce and decreased by 5.6 percent during 1989-93.

National Aeronautics and Space Administration

The number of scientists and engineers employed at the National Aeronautics and Space Administration (NASA) increased slightly during 1989-93. Despite low employment growth, there were some shifts in the occupational mix and the work activities of those employed. The number of scientists and engineers employed at NASA grew by 504 employees, from 11,920 in 1989 to 12,424 in 1993. The scientists and engineers at NASA made up approximately 6.3 percent of all Federal scientists and engineers in 1993, down from 6.4 percent in 1989. During 1989-93 the number of scientists decreased by 1.2 percent and that of engineers increased by 5 percent. Among the individual occupational series, industrial engineers showed the most rapid growth (30.8 percent), followed by life scientists (24.5 percent) and electrical, electronics, and computer engineers (7.6 percent). Notably slower growth was recorded for physical scientists (4.1 percent), aerospace engineers (2.1 percent), and mechanical engineers (1.5 percent). Negative growth was recorded for civil engineers (37.5 percent), computer and mathematical scientists (14.3 percent), and chemical engineers (3.8 percent).

There was a shift in the primary work activities of scientists and engineers employed at NASA during 1989-93. Those in 1993 were more likely to be employed in management, design, research, and development work, and less likely to be employed in most other activities.

The largest number of scientists and engineers at NASA were engaged in development; they increased their numbers by 4.8 percent. The next largest group (2,324) was employed in research, up very slightly from the number in 1989 (2,306). In 1993, 10.8 percent of NASA's scientific and engineering workforce was classified in management. This portion of NASA's workforce grew rapidly; the increase from 1989 to 1993 was 12.9 percent. Employment growth in all other activities (planning; standards and specifications; scientific and technical information; installation, operations, and maintenance; data collection, processing, and analysis; and technical assistance and consulting) declined during 1989-93.

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SECTION 3. EDUCATIONAL ATTAINMENT OF FEDERAL SCIENTISTS AND ENGINEERS

FIELD OF HIGHEST DEGREE

The most common highest-degree field among all Federal scientists and engineers was engineering. In 1993 approximately 44 percent of all Federal scientists and engineers had obtained a highest degree in engineering (table 5). Life sciences was the second most common highest degree field among Federal scientists and engineers (12.5 percent) followed by physical science (11.1 percent), social science (8.8 percent), and computer and mathematical sciences (7.9 percent). Among Federal scientists, the most common highest-degree field in 1993 was life sciences (23.9 percent), followed by physical sciences (18.3 percent) and computer and mathematical sciences (12.9 percent). The most prevalent highest degree among Federal engineers was the engineering degree (86.3 percent), followed by the physical sciences degree (3.5 percent).

Table 5. Federal scientists and engineers, by highest degree field: 1989-1993

Highest degree field	1989	1990	1991	1992	1993
Total	185,623	189,049	194,726	198,853	196,908
Physical sciences	21,501	21,867	22,053	22,263	21,914
Computer & mathematical sciences	13,505	14,218	14,931	15,474	15,591
Life sciences	22,108	22,850	23,711	24,738	24,541
Social sciences	14,773	15,333	16,403	17,294	17,315
Engineering	86,270	87,288	88,325	88,378	86,177
Non-science/non-engineering	25,668	27,042	28,713	30,161	30,662
No report	1,798	451	590	545	708

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data

HIGHEST DEGREE LEVEL

In 1993, 10.6 percent of all Federal scientists and engineers had acquired a Ph.D. degree as their highest degree, 25.1 percent a master's degree, and 63.4 percent a bachelor's degree (table 6). These ratios remained fairly steady and were approximately the same ratios evident in all years of the 1989-93 period covered in this report. In 1993 the most Ph.D.-intensive occupational group among Federal S&Es was physical scientists, 27.8 percent of whom had a Ph.D. as their highest degree. Other Federal S&E occupational groups with high levels of Ph.D.s included life scientists (21.2 percent) and social scientists (19.7 percent).

Table 6. Federal scientists and engineers, by highest degree level: 1989-93

Highest degree level	1989	1990	1991	1992	1993
Total, All S&E occupations	185,623	189,049	194,726	198,853	196,908
Ph.D	19,273	19,758	20,461	21,100	20,888
MS/MA	43,208	44,509	46,620	48,453	49,495
BS/BA	121,628	123,194	125,976	127,594	124,862
Professional	1,514	1,588	1,669	1,706	1,663

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

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SECTION 4. AGE PROFILES

The average age of the Federal science and engineering (S&E) workforce increased over the 1989-93 period. In 1989, 25.1 percent of the scientists employed by the Federal Government were under the age of 35 and 10.6 percent were 55 years of age or older (table 7). By 1993, 22.6 percent of the scientists were under the age of 35 and 11.4 percent were 55 years of age or older. In 1989, 42.1 percent of the engineers were under the age of 35 and 11.9 percent were 55 years of age or older. In 1993, however, 38.3 percent of engineers were under the age of 35 and 12.9 percent were 55 years of age or older.

Table 7. Federal scientists and engineers, by age and occupational group: 1993

Age	1989		1993	
	Scientists	Engineers	Scientists	Engineers
TOTAL	89,530	96,093	101,348	95,560
Under 35 years	22,440	40,421	22,868	36,606
35-39 years	16,886	11,104	17,034	13,406
40-49 years	31,002	22,866	36,772	22,925
50-54 years	9,702	10,233	13,067	10,334
55-56 years	2,664	3,066	3,409	3,341
57-59 years	3,187	3,665	3,678	3,689
60-61 years	1,395	1,655	1,655	1,879
62 years & over	2,252	3,083	2,862	3,378
No report	2	-	3	2

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data

An analysis of age profiles by selected work activity reveals that Federal scientists and engineers employed in development; design; installation, operations, and maintenance; test and evaluation; and production are more likely to be younger than those employed in research. This trend intensified during the period covered in this report. Of the Federal S&E workforce under the age of 35 in 1989, 24.5 percent were engaged in research work; 42.6 percent in development work; and 41.4 percent in design work (table 8). In 1993, these same proportions were 21.4 percent, 40.2 percent, and 35.3 percent, respectively. As expected, the proportion of Federal S&Es working in management under the age of 35 was small (12.8 percent in 1989 and 13.1 percent in 1993). The share of Federal S&Es 55 years of age or older in management increased from 18.7 percent in 1989 to 20.8 percent in 1993.

Table 8. Federal scientists and engineers, by age and selected work activity: 1993

Age	1989				1993			
	Research	Development	Design	Management	Research	Development	Design	Management
Total	21,242	28,791	15,171	8,407	21,670	29,529	14,209	8,488
Under 35 years	5,211	12,257	6,277	1,076	4,637	11,859	5,016	1,113
35-39 years	3,398	3,154	2,045	906	3,551	4,021	2,162	976
40-49 years	6,620	6,925	3,685	3,172	6,753	6,506	3,809	2,998
50-54 years	2,771	3,177	1,531	1,681	3,043	3,402	1,461	1,634
55-56 years	807	922	434	475	971	1,056	460	536
57-59 years	1,067	1,095	509	525	1,103	1,143	583	574
60-61 years	471	464	232	216	528	580	249	267
62 years and over	897	795	458	356	1,084	962	469	390
No report	-	2	-	-	-	-	-	-

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files.

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SECTION 5. SALARIES

The median annual base salaries of Federal scientists and engineers increased 21.9 percent during 1989-93, from $41,100 to $50,100. By contrast, the average annual weekly earnings in private nonagricultural industries rose only 12 percent during the same period (table 9).

Median annual base salaries for Federal scientists and engineers vary by occupation, work activity, and years of service. In 1993, median annual salaries for scientists ($48,100) were below those for engineers ($52,300), with the highest salaries reported for aerospace and civil engineers and the lowest salaries reported for life scientists. Among scientists, the highest median annual base salaries were paid to physical scientists, followed by computer and mathematical scientists, social scientists, and life scientists. The highest S&E salaries for engineers after aerospace engineers were reported for electrical, electronics, and computer engineers; chemical engineers; and civil engineers.

Table 9. Median average annual base salaries of Federal scientists and engineers, by major occupation group: 1989 and 1993

Major occupational group	In dollars		Percent change
	1989	1993	
Total	$41,100	$50,100	22
All scientists	40,400	48,100	19
Computer & mathematical scientists	42,100	49,900	19
Life scientists	35,300	42,600	21
Physical scientists	43,800	52,300	19
Social scientists	41,000	48,000	17
All engineers	42,000	52,300	25
Aerospace engineers	45,200	54,400	20
Chemical engineers	39,800	51,000	28
Civil engineers	41,100	49,900	21
Electrical, electronics & computer engineers	41,100	52,200	27
Industrial engineers	38,800	48,300	24
Mechanical engineers	38,800	49,200	27
Other engineers	45,100	54,300	20

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

The median annual base salaries for engineers increased more rapidly (25.3 percent) than did the salaries of scientists (19.1 percent). In general, all engineering occupations (except for civil engineers) received higher than average annual base salary increases, and all scientific occupations received lower than average increases. The fastest growing median salaries were for chemical engineers (28.1 percent), and the slowest growing salaries were for social scientists (17.1 percent).

Federal scientists and engineers with a Ph.D. degree reported a median annual salary of $60,400 in 1993, 20.6 percent higher than the average for all degree levels. Employees with a master's degree reported a median annual base salary of $52,500—4.8 percent higher than the average—and those with a bachelor's degree reported a median annual salary of $48,300—3.7 percent less than the average for all Federal scientists and engineers.

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SECTION 6. WOMEN AND MINORITIES

WOMEN

Levels and Trends

The number of women scientists and engineers in the Federal Government increased by 27.6 percent between 1989 and 1993, from 29,328 to 37,431 (table 10). By contrast, the number of men scientists and engineers in the Federal Government grew by 2.0 percent over the same period. The growth of women was 18.6 percent during 1989-91 and 7.6 percent during 1991-93. The growth trend for men scientists remained at a low 2.3 percent in 1989-91. A slight decrease occurred during 1991-93.

Table 10. Federal scientists and engineers, by sex: 1989-93

Gender	1989	1990	1991	1992	1993
Total	185,623	189,049	194,726	198,853	196,908
Women	29,328	31,733	34,787	36,854	37,431
Men	156,294	157,316	159,939	161,997	159,474
No report	1	-	-	2	3

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Employment growth for women outpaced that for men across all major occupational groups between 1989 and 1993. The highest employment growth for women in the sciences was posted for the life sciences (42 percent); the lowest level was among physical scientists (19 percent). Corresponding growth levels for men ranged from 9.6 percent for life sciences to 0.7 percent for physical scientists. Employment growth increases for women were highest in the engineering occupations, at 17.6 percent. The highest growth was posted for electrical, electronics, and computer engineers (23.5 percent), and the lowest growth was for industrial engineers (-18.7 percent). Corresponding levels for men ranged from 2.4 percent to -21.7 percent, respectively.

Despite experiencing more rapid employment growth than men, women in 1993 accounted for only 27.4 percent of all Federal scientists and 10.1 percent of all Federal engineers. These ratios were higher than the 1989 ratios (23.6 percent for scientists and 8.6 percent for engineers).

Primary Work Activity

Men and women scientists and engineers vary in their pattern of primary work activities. The largest proportion of women are employed in research, whereas the largest proportion of men are engaged in development work. Other primary work activities for women in order of importance include development; data collection, processing, and analysis; natural resource operations; clinical practice, counseling, and ancillary medical services; test and evaluation; and design. Other primary work activities for men in order of importance include research; design; data collection, processing, and analysis; natural resource operations; installation, operations, and maintenance; and test and evaluation.

Between 1989 and 1993 the fastest growing work activities for women included management; natural resource operations; and clinical practice, counseling, and ancillary medical services. The fastest growing work activities for men included teaching and training; clinical practice, counseling, and ancillary medical services; and regulatory enforcement or licensing.

MINORITIES

Level and Trends

The number of Federal scientists and engineers who are members of ethnic/racial minority groups rose 18.3 percent between 1989 and 1993, from 26,052 to 30,810 (table 11). In 1993, members of minority/ethnic groups represented 15.6 percent of the Federal S&E labor force, up from 14 percent in 1989. Most of this increase is attributable to the increased number of

Table 11. Federal scientists and engineers, by racial/ethnic status: 1989-93

Racial/ethnic status	1989	1990	1991	1992	1993
Total	185,623	189,049	194,726	198,853	196,908
White	159,401	161,431	165,564	168,316	166,084
Black	8,409	8,712	9,216	9,579	9,682
Asian	9,866	10,565	11,192	11,764	11,930
Hispanic	5,331	5,687	6,071	6,354	6,394
Native American	929	1,002	1,106	1,198	1,249
All other	1,517	1,576	1,523	1,516	1,555
No report	170	76	54	126	14

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Asian scientists and engineers, from 9,866 to 11,930. Black scientists and engineers in the Federal Government increased by 15.1 percent over the same period. Hispanic scientists and engineers grew 19.9 percent during 1989-93, and Native Americans increased by 34.4 percent.

In 1993, 15 percent of all Federal scientists and engineers were a member of an ethnic or racial minority group. Asians were the largest minority group representing 6 percent of Federal scientists and engineers, followed by Black Americans with 5 percent of the total. Hispanics and Native Americans were the smallest minority groups representing 3 percent and 1 percent of the total number of Federal scientists and engineers, respectively.

Employment growth for all minority groups (19.2 percent) outpaced the growth of white Federal scientists and engineers between 1989 and 1993 (4.2 percent). The growth of Asians and Native Americans outpaced that of other minorities, with increases of 21 percent and 34 percent, respectively. Hispanics in the Federal science and engineering workforce during the same period grew by 20 percent and Blacks rose by 15 percent.

Specific occupational areas of growth among selected minority groups included

- an 82-percent increase in aerospace engineering jobs for Native Americans,

- a 53-percent increase in computer and mathematical science jobs for Asians,

- a 35-percent rise in social science jobs for Hispanics, and

- a 29-percent growth in social science jobs for Blacks.

Primary Work Activity

Minorities employed as Federal scientists and engineers have varied primary work activities. The largest proportion of Asians are employed in work activities such as development, research, and design, whereas the largest proportion of blacks are engaged in development; data collection, processing, and analysis; and research. Hispanics are primarily engaged in development, test and evaluation, and design. Almost one-quarter of the Native Americans employed as scientists and engineers in the Federal Government are engaged in natural resource operations work.

SECTION 7. GEOGRAPHIC PATTERNS IN THE EMPLOYMENT OF FEDERAL SCIENTISTS AND ENGINEERS

In 1993 almost 1.8 million civilian white collar employees worked for the Federal Government. Fewer than one-fifth of the white collar employees worked in the Washington DC metropolitan statistical area; the remaining four-fifths held U.S. duty stations in the other 50 States or were employed in U.S. territories and foreign countries. The decision to open and close Federal facilities has a large impact on the economic growth and development of States and localities. This is especially true for Federal laboratories that employ large numbers of scientists and engineers. This section analyzes the geographic distribution of Federal scientists and engineers, examining the regional patterns that have emerged during the eighties and nineties and the concentration of Federal scientists and engineers in States.

The South Atlantic Region led the country in the number of Federal scientists and engineers; 36 percent of the Nation's federally employed scientists and engineers work in this region (mostly in Maryland and the District of Columbia, which accounted for 31.5 percent and 24.6 percent of the region's total, respectively) (table 12). The Pacific region was the second-largest region, with 16 percent of the total number of Federal scientists and engineers (almost 62.7 percent of the region's Federal scientists and engineers work in California). By contrast, New England was the smallest region, with 3.8 percent of the Federal S&E total. Massachusetts accounted for 44.2 percent of all Federal scientists and engineers employed in New England.

- Among the six remaining regions the number of Federal scientists and engineers is concentrated in a few States; for example:

- Pennsylvania and New Jersey accounted for 77.6 percent of Federal scientists and engineers in the Middle Atlantic Region.[3]

- Ohio accounted for more than 42.9 percent of the Federal scientists and engineers in the East North Central Region.

- Missouri accounted for 37.6 percent of the Federal scientists and engineers in the West North Central Region.

- Alabama accounted for 56.4 percent of Federal scientists and engineers in the East South Central Region.

- Texas accounted for 62.3 percent of the Federal scientists and engineers in the West South Central Region.

- Colorado and New Mexico accounted for 51.2 percent of the Federal scientists and engineers in the Mountain region

Employment growth varied by region during the late 1980s and early 1990s, ranging from a high of 12.8 percent for the Mountain region to a low of 1 percent for the Middle Atlantic region. Idaho and Colorado contributed heavily to the increasing employment growth in the Mountain States with growth levels of 29.8 and 17.7 percent, respectively. The substantial growth level of the South Atlantic States (8.4 percent) was fueled by significant growth in Federal S&E employment for West Virginia (19.4 percent), North Carolina (16.2 percent), and Maryland (8.7 percent). All other regions showed employment growth levels at or less than 7.5 percent. Despite the varying levels of regional employment growth, the regional rankings had minor changes during 1989-93. The Mountain States showed the most strength, surpassing the Middle Atlantic States and the East North Central States and becoming the third most populous Federal S&E region after the South Atlantic region and the Pacific region.

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[3] See table 12 for a listing of States within the regions indentified in this section.

Table 12. Federal scientists and engineers (S&Es): distribution by region and ranking by State: 1993

Page 1 of 1

Region/State	Federal S&Es	Percent of U.S. total	Region/State	Federal S&Es	Percent of U.S. total
New England	7,491	3.8	East South Central	11,206	5.7
Middle Atlantic	16,018	8.1	West South Central	13,375	6.8
East North Central	16,552	8.4	Mountain	17,067	8.7
West North Central	8,072	4.1	Pacific	31,420	16.0
South Atlantic	70,947	36.0	State unknown	4,760	2.4

Region/State	U.S. ranking
New England:	
Connecticut	32
Maine	42
Massachusetts	16
New Hampshire	49
Rhode Island	30
Vermont	50
Middle Atlantic:	
New Jersey	7
New York	15
Pennsylvania	10
East North Central:	
Illinois	14
Indiana	21
Michigan	24
Ohio	6
Wisconsin	43
West North Central:	
Iowa	46
Kansas	37
Minnesota	36
Missouri	17
Nebraska	35
North Dakota	47
South Dakota	48
South Atlantic:	
Delaware	51
District of Columbia	3
Florida	9
Georgia	13
Maryland	1
North Carolina	23
South Carolina	28
Virginia	4

Region/State	U.S. ranking
East South Central:	
West Virginia	41
Alabama	8
Kentucky	39
Mississippi	22
Tennessee	33
West South Central:	
Arkansas	44
Louisiana	29
Oklahoma	20
Texas	5
Mountain:	
Arizona	27
Colorado	11
Idaho	34
Montana	38
Nevada	40
New Mexico	18
Utah	25
Wyoming	45
Pacific:	
Alaska	31
California	2
Hawaii	26
Oregon	19
Washington	12

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

SECTION 8. FEDERAL CIVILIAN EMPLOYEES EDUCATED AS SCIENTISTS AND ENGINEERS EMPLOYED IN NON-S&E OCCUPATIONS

To accurately measure the supply of scientific and engineering skills in the Federal Government, a more complete examination would be required of Federal employees who are trained as scientists and engineers but work in non-S&E occupations. In 1993, 73 percent of all Federal white collar employees with a bachelor's degree or higher were employed in a non-S&E occupation. These levels remain consistent throughout the 4-year period covered in this report. Federal employees trained as social scientists and life scientsts are more likely to be employed in non S&E jobs than other scientists and engineers.

There is also a group of Federal employees with degrees in nonscientific or nonengineering fields who are increasingly employed in S&E occupations. They may have acquired skills during the attainment of that degree that are easily transferable to other S&E occupations. This group grew from 6.9 percent of white collar employees in 1989 to 7.6 percent in 1993. Federal employees with their highest degree in a non-S&E field and employed as life scientists have grown more rapidly than any other group (29.8 percent). Other rapidly growing S&E occupations that include a larger proportion of graduates with non-S&E degrees include computer and mathematical scientists (19.1 percent), social scientists (18.4 percent), and physical scientists (17.4 percent).

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Appendixes

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APPENDIX A. TECHNICAL NOTES

SCOPE

The preceding report presents data on the demographic and employment characteristics of Federal scientists and engineers. This population consists of individuals in selected white collar civilian occupational groups who hold at least a university or college bachelor's degree. One table also provides information on Federal civilian white collar personnel educated in S&E fields but employed in non-S&E occupations. This report differs from previous reports on Federal scientists and engineers in that it presents for the first time a historical 5-year time-series on Federal scientists and engineers. The statistical tables were prepared by selecting various crosscuts of the following data elements on Federal scientists and engineers:

1. Agency of employment
2. Primary work activity (functional classification)
3. Sex
4. Occupational group and series
5. Highest degree field
6. Race/ethnicity
7. Geographic division and State of official duty station
8. Age
9. Highest degree level

DATA SOURCES

The data presented in this report were collected by the Office of Personnel Management (OPM) and provided to the National Science Foundation on magnetic tape. OPM extracted the data from its Central Personnel Data File (CPDF). The CPDF, which was established in 1972 and is maintained by OPM, is an automated system of individual records for almost all Federal civilian employees. Agencies collect these data on their employees from requests and notifications of individual personnel actions. The CPDF is maintained by monthly agency input of employment status files. All input files are edited for validity. The CPDF contains over 2 million records on full-time nonpostal Federal civilian employment.

DATA REFERENCE PERIOD

The information provided by OPM for the years 1989-93 is from the Central Personnel Data Files (CPDF). The effective date of data provided for 1989-93 is as of September 30 of each year.

AGENCY COVERAGE

The CPDF does not contain information for (and as a result the report excludes data for) Members and employees of Congress, Architect of the Capitol, Botanic Gardens, Library of Congress, Congressional Budget Office, Copyright Royalty Tribunal, Office of Technology Assessment, Judicial Branch (except the Administrative Office of the U.S. Courts), White House Office, Office of the Vice President, Board of Governors of the Federal Reserve System, Defense Intelligence Agency, Central Intelligence Agency, National Security Agency, U.S. Postal Service, Postal Rate Commission, foreign nationals employed overseas, or the Public Health Commissioned Corps. The General Accounting Office was included in all years except 1993. The Tennessee Valley Authority (TVA) does not report to the CPDF, but the magnetic tape provided to the National Science Foundation by OPM was supplemented to include TVA data for 1993 only. TVA data were not included in the years 1989-92.

The acronyms and abbreviated references of the Federal agencies for which tabular data are provided in this report are as follows:

Air Force	- Department of the Air Force
Army	- Department of the Army
Commerce	- Department of Commerce
DOE	- Department of Energy
DOT	- Department of Transportation
Defense	- Department of Defense
EPA	- Environmental Protection Agency
HHS	- Department of Health and Human Services
Interior	- Department of the Interior
NASA	- National Aeronautics and Space Administration
Navy	- Department of the Navy
TVA	- Tennessee Valley Authority
USDA	- Department of Agriculture
VA	- Veterans Administration

Other abbreviations used are as follows:

R&D	- research and development
S&E	- science and engineering

OCCUPATIONAL COVERAGE

The data reported in this report should be used with caution when examining data reported on Federal scientists and engineers in previous years. Some reports published prior to this report contain data about all scientists and engineers, regardless of their highest degree level. This report covers only Federal scientists and engineers with at least a bachelor's degree.

The Federal scientists and engineers included in this report were compiled from a group consisting of all Federal white collar employees as presented and reported by the Office of Personnel Management. The list on the following pages indicates the occupational group and series, by code number, of all scientific and engineering personnel in the Federal Government. The list of occupations that were selected is presented together with the occupational codes established for NSF's SESTAT (Scientists and Engineers Data System). SESTAT is an occupational classification system that NSF has established for all its S&E personnel surveys. The table lists the occupations selected as S&E occupations from the CPDF and the corresponding SESTAT major and minor occupational groups.

DEFINITIONS OF WORK-ACTIVITY CLASSIFICATION CATEGORIES[4]

Research. Systematic, critical, intensive investigation directed toward the development of new or fuller scientific knowledge of the subject studied. It may be with or without reference to a specific application. The work involves theoretical, taxonomic, and experimental investigations or simulation of experiments and conditions for several purposes. The following list identifies these activities:

(1) Determining the nature, magnitude, and interrelationships of natural and social phenomena and processes.

(2) Creating and developing theoretical or experimental means of investigating such phenomena or processes.

(3) Developing the principles, criteria, methods, and a body of data of general applicability for use by others.

Excluded from this research category is work concerned primarily with the administration and monitoring of research contracts and research grants.

Development. Systematic application of scientific knowledge directed toward the creation of new or substantially improved equipment, materials, instrumentation, devices, systems, mathematical models, processes, techniques, and procedures that will perform a useful function or be suitable for a particular duty.

The work involves the following activities:

(1) Establishing requirements for technical objectives and characteristics.

(2) Devising and evaluating concepts for design approaches, criteria, parameters, characteristics, and interrelationships.

(3) Experimenting, investigating, and testing to produce new data, mathematical models, methods of testing concepts; formulating design criteria; and measuring and predicting natural and social phenomena and performance.

(4) Designing and developing prototypes, bread boards, and engineering models including the direction of their fabrication as required.

(5) Developing standards and test plans to assure reliability.

(6) Managing specific developments being executed in-house or under contract.

As does research, development advances the state of the art, but it is further characterized by the creation of specific end-items in the form of equipment or equipment systems (hardware development) and/or methodologies, mathematical models, procedures, and techniques (software development).

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[4] These definitions are used by the Office of Personnel Management to gather information on work activities of Federal scientists and engineers

Crosswalk of NSF s SESTAT Major and Minor Occcupational Groups and OPM Occupations

SESTAT Major and Minor Groups	OPM Occupation Codes	
		Detail Level
[illegible]		
1.1 Computer and information scientists		
	1550	Computer scientists (those individuals = or > GS-15 or equivalent)
	1550	Computer scientists (those individuals < GS-15 or equivalent)
	334	Computer specialists (those individuals = or > GS-12 or equivalent)
	1670	Equipment specialists
	330	Digital equipment specialist, administration
1.2 Mathematical scientists	1520	Mathematicians
	1515	Operations research analysts
	1529	Mathematical statisticians
	1530	Statisticians
	1540	Cryptographers
	1541	Cryptography analysts
1.8 Postsecondary teachers- Computer & mathematical sciences		
[illegible]		
		Agricultural, forestry, and conservation scientists
2.1 Agricultural and food scientists	28	Environmental protection specialists
	406	Agricultural extension specialists
	437	Horticulturalists
	454	Range conservationists
	457	Soil conservationists
	470	Soil scientists
	471	Agronomers
	487	Animal scientists
		Biological scientists, including biochemists and biophysicists
2.2 Biological scientists	403	Microbiologists
	408	Ecologists
	410	Zoologists
	413	Physiologists
	414	Entomologists
	415	Toxicologists
	430	Botanists
	434	Plant pathologists
	435	Plant physiologists
	440	Geneticists
	482	Fishery biologists
	486	Wildlife biologists
	405	Pharmacologists
	401	Biological scientists, general
2.3 Environmental life scientists, including forestry scientists		Included above under agricultural, forestry, and conservation scientists
2.8 Postsecondary teachers- Life & related Sciences		

[illegible]	
3.1 Chemists, except biochemistry	1320 Chemists
3.2 Earth scientists, geologists & oceanographers	1330 Astronomers and space scientists
	1340 Meteorologists
	1313 Geophysicists
	1315 Hydrologists
	1350 Geologists
	1372 Geodesists
	1360 Oceonographers
	1310 Physicists
3.4 Other physical scientists	1306 Health physicists
	1301 Physical scientists, general
3.8 Postsecondary teachers- Physical & related sciences	
[illegible]	
4.1 Economists	110 Economists
	135 Foreign agricultural affairs
	1140 Trade specialist
	1146 Agricultural market specialists
	1147 Agricultural market reporting
	2110 Transportation industry analysis
4.2 Political scientists and related scientists	130 Foreign affairs analysts
	131 International relations specialists
4.3 Psychologists	180 Psychologists
4.4 Sociologists and anthropologists	190 General anthropologists
	184 Sociologists
4.5 Other social scientists	106 Unemployment insurance specialist
	132 Intelligence specialist
	136 International cooperation specialist
	150 Geographers
	160 Civil rights analysts
	193 Archeologists
	140 Manpower research analysts
	1730 Education research analysts
	238x Social scientists, general
4.8 Postsecondary teachers- social & related sciences	
[illegible]	
5.1 Aerospace and related engineers	861 Aerospace eningers
5.2 Chemical engineers	893 Chemical engineers
5.3 Civil and architectural engineers	810 Civil engineers
5.4 Electrical, electronic, computer, & communications engineers	854 Computer engineers
	850 Electrical engineers
	855 Electronics engineers
5.5 Industrial engineers	803 Safety engineers
	804 Fire prevention engineers
	896 Industrial engineers
5.6 Mechanical engineers	830 Mechanical engineers

5.7 Other engineers	890 Agricultural engineers
	858 Biomedical engineers
	819 Environmental engineers
	871 Naval architects
	806 Metallurgical engineers 892 Ceramic engineers 894 Welding engineers 1321 Metallurgists
	880 Mining engineers
	840 Nuclear engineers
	881 Petroleum engineers
5.8 Postecondary teachers- Engineering	801 Engineers, general

Design. The planning, synthesis, and portrayal for purposes of fabrication or construction of structures, equipment, materials, facilities, devices, and processes that will perform a useful function or be suitable for a certain duty.

The work involves the following activities:

(1) Investigating, analyzing, and determining needs and design considerations.

(2) Planning, synthesizing, and proportioning the structure of mechanisms so that the result is achieved with safety and economy.

(3) Preparing design criteria, detailed designs, specifications, cost estimates, and operating instructions.

(4) Reviewing and evaluating design proposals and designs prepared by others including the management of architectural and engineering contracts.

For present purposes, design in an R&D organization is the application of the known state-of-the-art in the form of standard guidelines and references to prepare the detailed working plans and data required for fabrication, assembly, and production.

Data collection, processing, and analysis. The collection, processing, and analysis of general-purpose scientific data describing natural and social phenomena. General-purpose scientific data include newly gathered statistics, observations, instrument readings, measurements, specimens, and other facts obtained from such activities as statistical and field surveys, exploration, laboratory analyses, photogrammetry, and compilations of operating records for use by others. The following activities are involved:

(1) Determining data needs and data processing requirements.

(2) Planning, directing, and evaluating collection activities performed in-house or under contract.

(3) Designing overall processing plans and systems to handle, control, operate, manipulate, reduce, store, check, and retrieve data.

(4) Analyzing raw and processed data for validity and subject-matter interpretation.

(5) Providing analytic services such as chemical analyses.

(6) Forecasting and projecting data conditions.

(7) Summarizing and presenting data for general use.

Excluded from this category are collection and analysis of data only for R&D projects and internal operating or administrative purposes such as policy formulation or planning.

Natural resource operations. The development and utilization of federally owned lands and natural resources for the purposes of bringing current use into balance with natural processes of renewal to assure sustained yields to meet present and future public needs. Natural resources include land, air, and water, and their related products or uses, such as soil, minerals, timber, forage, wildlife, power, and recreation. The work involves implementing programs and projects to inventory, classify, utilize, improve, conserve, regulate, protect, sell, lease, exchange, or market natural resources. Resource operations as defined here are concerned with managing and conserving the land and resources in a specified geographic area.

Management. The direction and control of science and engineering (S&E) programs in any one or combination of functions in a line or staff capacity with responsibilities that have a direct and substantial effect on the organizations and programs managed. The work involves decisions, actions, and recommendations that establish the basic content and character of the programs directed in terms of program objectives and priorities, program initiation and content, funding, and allocation of organizational resources. This category is not intended to cover those primarily engaged in the supervision or monitoring of work carried out through contracts and grants, or in the contracts and grants administration. Such positions are to be coded to the appropriate function.

Installation, operations, and maintenance. The installing, assembling, integrating, and assuring of the proper technical operation and functioning of systems, facilities, machinery, and equipment. The work involves the following activities:

(1) Analyzing operating and environmental conditions in order to provide design inputs and feedbacks, and modifying designs as necessary to adapt them to actual environments.

(2) Developing and determining logistic require ments, documentation, technical plans, procedures, controls, and instructions.

(3) Equipping, supplying, and commissioning facilities.

(4) Analyzing performance and cost data and developing actual performance and cost-data requirements.

(5) Integrating equipment installation and operating schedules.

(6) Managing onsite an operating facility such as a power plant, test range, mission control center, irrigation station, data acquisition station, or flight control station.

(7) Managing installation, operations, or maintenance contracts.

Planning. The study and projection of present and future needs and the formulation of alternative policies and ways of meeting these needs for the utilization of land; natural, social, industrial, material, and manpower resources; physical facilities; and social and economic services and programs. The work involves the following activities:

(1) Gathering, compiling, analyzing, and evaluating data.

(2) Projecting needs and establishing goals.

(3) Developing single or alternative plans, policies, programs, and recommendations, and measures of their economic, social, and political costs, benefits, and feasibility.

(4) Reevaluating progress to assure that objectives are realized in putting the plans into effect.

This category includes physical, economic, and social planning for land population centers and mission, policy, and program planning.

Test and evaluation. The testing of equipment, materials, devices, components, systems, and methodologies under controlled conditions and the systematic evaluation of test data to determine the degree of compliance of the test item with predetermined criteria and requirements. This work is characterized by the development and application of test plans to be carried out in-house or under contract or grant utilizing one or more of the following kinds of tests: physical measurement techniques; controlled laboratory, shop, and field (demonstration) trials; and simulated environmental techniques.

Activities included in this category are as follows:

(1) Development testing to determine the suitability of the test item for use in its environment.

(2) Production and postproduction testing to determine operational readiness.

(3) Testing in regulatory programs to determine compliance with laws, regulations, and standards.

(4) Testing in the social sciences using demonstration or experimental and control groups to determine the effectiveness of new methodologies or practices.

Research contract and grants administration. The administration and monitoring of research contracts and research grants.

Construction. The original erection, repair, and improvement of structures that provide shelter for people and activities, support transportation systems, and control natural resources. The work involves surveillance and control of construction operations carried out in-house or under Federal grants, contracts, or loans through the following activities:

(1) Conducting site surveys.

(2) Reviewing and interpreting project plans and specifications.

(3) Making cost analyses and estimates.

(4) Laying out and scheduling operations.

(5) Investigating materials, methods, and construction problems.

(6) Negotiating with utilities, contractors, and agencies involved.

(7) Inspecting work in progress and completed work and final acceptance of completed work.

Production. The fabrication and manufacture of structures, equipment, materials, machines, and devices. The work involves surveillance and control of production operations carried out in-house or under contract through the following activities:

(1) Planning, directing, controlling, inspecting, and evaluating production processes, equipment, and facilities.

(2) Refining designs to adapt them to production facilities and processes.

(3) Devising, applying, and monitoring procedures to measure and assure quality.

Scientific and technical information. The processing and dissemination of published and unpublished technical documents and information on work to facilitate their use. The work involves developing and implementing information systems through numerous activities:

(1) Providing for the selection, acquisition, compilation, exchange, and storage of scientific and technical information.

(2) Cataloging, abstracting, and indexing information for retrieval and dissemination.

(3) Providing reference, literature search, and bibliographic services for information users.

(4) Interpreting, evaluating, and briefing on the significance and relevance of information.

(5) Disseminating information through briefings, technical publications, and other communications media.

(6) Classifying and declassifying technical information where use must be controlled in the national interest.

Standards and specifications. The preparation and determination of mandatory and/or voluntary standards including rules, regulations, and codes. Some of the purposes for which these standards are developed include the following:

(1) Drafting Government codes and regulations.

(2) Assuring the acceptability, quality, and/or standardization of products, materials, and parts as required for design, production, purchasing, logistics, and documentation.

The work involves the development of performance criteria, test and inspection methods, and data for the application of the standards to technological products and services.

Regulatory enforcement and licensing. The application and enforcement of laws, rules, regulations, orders, and governmental agreements through inspection, investigation, surveillance, licensing, certification, and similar activities.

The work includes activities such as the following:

(1) Licensing power plants and radio stations.

(2) Enforcing plant or animal-disease eradication programs.

(3) Examining applications for patents.

(4) Inspecting operations for compliance with requirements.

(5) Approving utility rates and services.

(6) Investigating aircraft accidents.

(7) Allocating radio frequencies.

(8) Determining compliance with engineering aspects of Federal tax laws.

Teaching and training. The teaching of scientific and technical subjects; the education and training of scientific and technical personnel in-house and through programs consisting of fellowships, traineeships, and training grants; and the development of curriculums, training materials, and aids.

Technical assistance and consulting. The provision of scientific and technical expert assistance, consultation, and advice to other scientific personnel; foreign governments; government agencies at the Federal, State, or local level; private industry; organized groups; and individuals. The work involves advising and promoting application of the results of research and specialized program knowledge.

Other—not elsewhere classified. This category is to be used for the following positions:

(1) Those with highly specialized activities that are not covered in any of the other categories.

(2) Those of such generalized nature that a primary function cannot be identified.

(3) Trainee positions without functional assignments.

LIMITATIONS OF THE DATA

The criterion used in this report to classify a Federal white collar employee as a scientist and engineer is to select the occupational group or series that is considered to be an S&E series. Although some of the occupational series have been selected as S&E series, employees within these series or groups are not necessarily working as scientists and engineers or on S&E work. On the other hand, there are some occupations that have not been classified as S&E occupations because their occupational series are technical and not professional in nature. For example, patent examiners have not been included as as having S&E occupations, even though some of the employees within this occupation are trained as scientists and, particularly, engineers. (These employees were included in the statistical table on Federal personnel who held their highest degree in S&E but who were employed in non-S&E work.)

The information presented in this report is obtained from OPM's CPDF. The CPDF is updated on a quarterly basis by agency submissions. The agencies collect their data from individual notifications of (SF-50-B) and requests for (SF-52-B) personnel action. The forms are usually updated by personnel clerks and are subject to misclassification and miscoding. This is particularly true for three of the data elements: primary work activity (functional classification), highest degree field, and highest degree level. Primary work activity data are updated by personnel clerks, and unless the clerks refer to position descriptions or contact the employee (or the employee's manager) whose records are being updated, the coding is subject to misclassification. Education data (highest degree field and highest degree level) are collected only on permanent employees at the time of entry into the Federal Service and are not routinely updated by additional educational experience after the time of hiring.

For further information on data quality, survey methodology, and error analyses on the data provided to NSF, refer to the *Federal Civilian Workforce Statistics, Occupations of Federal White-Collar and Blue-Collar Workers*, issued biennially by OPM.

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Table B-1. Federal scientists and engineers, by agency: 1989-93

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Agency	1989	1990	1991	1992	1993
Total, All Agencies	185,623	189,049	194,726	198,853	196,908
Department of Agriculture	16,875	17,068	17,475	18,073	17,764
Department of Commerce	7,768	8,006	8,312	8,660	8,766
Department of Defense	94,194	93,949	94,042	94,213	92,163
Department of the Army	34,957	34,271	34,295	34,192	33,300
Department of the Navy	39,076	39,264	39,155	38,892	37,650
Department of the Air Force	16,502	16,267	16,063	16,273	16,281
Other Defense Agencies	3,659	4,147	4,529	4,856	4,932
Department of Energy	3,838	4,106	4,809	5,302	5,132
Department of Health & Human Services	8,121	8,734	9,244	9,683	9,614
Department of Housing & Urban Development	390	395	431	457	440
Department of the Interior	11,846	12,046	12,502	13,142	13,450
Department of Justice	1,579	1,752	2,026	2,380	2,583
Department of Labor	1,891	1,926	2,072	2,167	2,141
Department of State	2,877	3,049	3,218	3,424	3,401
Department of Transportation	4,580	4,763	5,101	5,403	5,462
Department of the Treasury	2,516	2,664	3,103	3,320	3,461
Department of Veterans Affairs	4,401	4,614	4,902	5,109	5,355
Environmental Protection Agency	6,503	7,223	7,810	7,887	8,061
General Services Administration	741	827	924	922	978
National Aeronautics & Space Administration	11,920	12,277	12,802	12,665	12,424
National Science Foundation	377	389	362	364	328
Nuclear Regulatory Commission	1,457	1,466	1,590	1,620	1,593
US International Development Cooperation Agency	585	556	520	480	470
All other agencies	3,164	3,239	3,481	3,582	3,322

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-2. Federal scientists and engineers, by primary work activity: 1989-93

Page 1 of 1

Primary work activity	1989	1990	1991	1992	1993
Total, All Activities	185,623	189,049	194,726	198,853	196,908
Development	28,791	29,190	27,502	30,299	29,529
Research	21,242	21,381	21,768	22,246	21,670
Design	15,171	14,781	14,521	14,681	14,209
Data collection, processing, and analysis	14,236	14,325	14,795	14,951	14,675
Natural resources operations	11,488	11,904	12,455	13,235	13,461
Management	8,407	8,625	8,505	8,682	8,488
Installation, operations, and maintenance	11,480	11,429	11,608	11,623	11,353
Test and evaluation	9,712	10,095	10,160	10,409	10,495
Planning	6,374	6,238	6,223	6,271	6,169
Technical assistance and consulting	4,118	4,204	4,338	4,526	4,556
Production	5,708	5,703	5,836	5,884	5,659
Regulatory enforcement of licensing	4,951	5,332	5,867	6,026	5,910
Construction	5,170	4,940	4,746	4,698	4,682
Clinical practice, counseling, and ancillary medical service	3,430	3,625	3,981	4,201	4,440
Standards and specifications	1,674	1,692	1,620	1,642	1,506
Scientific and technical information	1,746	1,905	1,957	2,057	2,146
Research contract and grant administration	944	1,042	1,047	1,070	1,039
Teaching and training	376	406	442	431	471
Other - not elsewhere classified	8,329	8,867	8,682	8,740	8,244
Activity unknown	22,276	23,365	28,673	27,181	28,206

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-3. Federal scientists and engineers, by occupational group and series and by sex: 1989-93

Page 1 of 13

Occupational group and series	1989	1990	1991	1992	1993
Total, All Occupations					
Total	185,623	189,049	194,726	198,853	196,908
Women	29,328	31,733	34,787	36,854	37,431
Men	156,294	157,316	159,939	161,997	159,474
No report	1	-	-	2	3
All scientists:					
Total	89,530	92,467	96,919	101,006	101,348
Women	21,086	22,964	25,291	27,145	27,736
Men	68,444	69,503	71,628	73,859	73,611
No report	-	-	-	2	1
Computer and mathematical sciences:					
Total	25,737	26,725	28,210	29,371	29,691
Women	7,121	7,661	8,364	8,837	9,103
Men	18,616	19,064	19,846	20,534	20,588
No report	-	-	-	-	-
Computer and information sciences:					
Total	16,818	17,821	19,176	20,510	21,208
Women	4,670	5,128	5,703	6,212	6,546
Men	12,148	12,693	13,473	14,298	14,662
No report	-	-	-	-	-
Computer science:					
Total	477	512	540	551	578
Women	145	158	159	160	165
Men	332	354	381	391	413
No report	-	-	-	-	-
Computer systems:					
Total	15,086	16,045	17,303	18,629	19,402
Women	4,438	4,873	5,432	5,935	6,274
Men	10,648	11,172	11,871	12,694	13,128
No report	-	-	-	-	-
Other computer sciences:					
Total	1,255	1,264	1,333	1,330	1,228
Women	87	97	112	117	107
Men	1,168	1,167	1,221	1,213	1,121
No report	-	-	-	-	-
Mathematical sciences:					
Total	8,919	8,904	9,034	8,861	8,483
Women	2,451	2,533	2,661	2,625	2,557
Men	6,468	6,371	6,373	6,236	5,926
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-3. Federal scientists and engineers, by occupational group and series and by sex: 1989-93

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Occupational group and series	1989	1990	1991	1992	1993
Mathematics:					
Total	2,268	2,219	2,106	2,007	1,845
Women	638	633	607	568	537
Men	1,630	1,586	1,499	1,439	1,308
No report	-	-	-	-	-
Operations research:					
Total	3,294	3,295	3,290	3,221	3,129
Women	680	717	746	733	741
Men	2,614	2,578	2,544	2,488	2,388
No report	-	-	-	-	-
Statistics:					
Total	3,352	3,388	3,635	3,628	3,504
Women	1,128	1,181	1,305	1,319	1,274
Men	2,224	2,207	2,330	2,309	2,230
No report	-	-	-	-	-
Other mathematical sciences:					
Total	5	2	3	5	5
Women	5	2	3	5	5
Men	-	-	-	-	-
No report	-	-	-	-	-
Life sciences:					
Total	23,082	24,009	25,280	26,765	26,920
Women	5,014	5,637	6,344	6,971	7,122
Men	18,068	18,372	18,936	19,792	19,797
No report	-	-	-	2	1
Agriculture and forestry sciences					
Total	9,561	9,700	9,869	10,195	10,290
Women	1,598	1,780	1,988	2,138	2,233
Men	7,963	7,920	7,881	8,055	8,056
No report	-	-	-	2	1
Environmental protection:					
Total	1,964	2,314	2,659	2,914	3,114
Women	747	900	1,070	1,168	1,253
Men	1,217	1,414	1,589	1,744	1,860
No report	-	-	-	2	1
Agricultural extension:					
Total	2	2	2	3	3
Women	-	-	1	1	1
Men	2	2	1	2	2
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-3. Federal scientists and engineers, by occupational group and series and by sex: 1989-93

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Occupational group and series	1989	1990	1991	1992	1993
Horticulture:					
Total	99	96	108	111	110
Women	23	26	32	27	28
Men	76	70	76	84	82
No report	-	-	-	-	-
Range conservation:					
Total	1,114	1,111	1,089	1,103	1,091
Women	151	164	176	186	179
Men	963	947	913	917	912
No report	-	-	-	-	-
Soil conservation:					
Total	4,340	4,194	4,082	4,143	4,102
Women	500	507	523	567	591
Men	3,840	3,687	3,559	3,576	3,511
No report	-	-	-	-	-
Soil science:					
Total	1,618	1,574	1,521	1,511	1,473
Women	154	161	157	162	146
Men	1,464	1,413	1,364	1,349	1,327
No report	-	-	-	-	-
Agronomy:					
Total	315	297	297	306	301
Women	9	7	10	13	21
Men	306	290	287	293	280
No report	-	-	-	-	-
Animal sciences:					
Total	109	112	111	104	96
Women	14	15	19	14	14
Men	95	97	92	90	82
No report	-	-	-	-	-
Biological and medical sciences:					
Total	13,521	14,309	15,411	16,570	16,630
Women	3,416	3,857	4,356	4,833	4,889
Men	10,105	10,452	11,055	11,737	11,741
No report	-	-	-	-	-
General biological sciences:					
Total	5,106	5,538	6,142	6,771	7,001
Women	1,427	1,605	1,887	2,132	2,212
Men	3,679	3,933	4,255	4,639	4,789
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-3. Federal scientists and engineers, by occupational group and series and by sex: 1989-93

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Occupational group and series	1989	1990	1991	1992	1993
Microbiology:					
Total	1,939	1,973	2,060	2,050	1,995
Women	795	827	859	866	848
Men	1,144	1,146	1,201	1,184	1,147
No report	-	-	-	-	-
Ecology:					
Total	394	431	507	577	626
Women	85	102	139	173	189
Men	309	329	368	404	437
No report	-	-	-	-	-
Zoology:					
Total	103	99	93	98	96
Women	14	17	15	19	18
Men	89	82	78	79	78
No report	-	-	-	-	-
Physiology:					
Total	548	552	570	580	539
Women	128	136	145	147	128
Men	420	416	425	433	411
No report	-	-	-	-	-
Entomology:					
Total	675	670	655	666	638
Women	58	66	71	78	78
Men	617	604	584	588	560
No report	-	-	-	-	-
Toxicology:					
Total	146	171	210	222	227
Women	42	57	69	75	79
Men	104	114	141	147	148
No report	-	-	-	-	-
Botany:					
Total	179	220	264	314	322
Women	57	91	119	149	160
Men	122	129	145	165	162
No report	-	-	-	-	-
Plant pathology:					
Total	317	304	298	300	274
Women	47	43	51	56	50
Men	270	261	247	244	224
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-3. Federal scientists and engineers, by occupational group and series and by sex: 1989-93

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Occupational group and series	1989	1990	1991	1992	1993
Plant physiology:					
Total	338	343	346	330	303
Women	59	64	70	60	58
Men	279	279	276	270	245
No report	-	-	-	-	-
Genetics:					
Total	343	329	324	351	326
Women	65	69	66	72	64
Men	278	260	258	279	262
No report	-	-	-	-	-
Fishery biology:					
Total	1,395	1,452	1,553	1,748	1,750
Women	213	248	276	338	338
Men	1,182	1,204	1,277	1,410	1,412
No report	-	-	-	-	-
Wildlife biology:					
Total	1,667	1,841	1,996	2,168	2,153
Women	336	437	489	565	567
Men	1,331	1,404	1,507	1,603	1,586
No report	-	-	-	-	-
Pharmacology:					
Total	371	386	393	395	380
Women	90	95	100	103	100
Men	281	291	293	292	280
No report	-	-	-	-	-
Physical sciences:					
Total	23,204	23,725	24,140	24,427	24,118
Women	3,883	4,244	4,502	4,632	4,662
Men	19,321	19,481	19,638	19,795	19,456
No report	-	-	-	-	-
Chemistry:					
Total	7,024	7,080	7,135	7,074	6,832
Women	1,765	1,853	1,940	1,946	1,919
Men	5,259	5,227	5,195	5,128	4,913
No report	-	-	-	-	-
Earth sciences and physics:					
Total	11,815	11,983	11,995	12,162	12,062
Women	1,317	1,422	1,466	1,515	1,535
Men	10,498	10,561	10,529	10,647	10,527
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-3 Federal scientists and engineers, by occupational group and series and by sex: 1989-93

Occupational group and series	1989	1990	1991	1992	1993
Health physics:					
Total	537	594	626	664	654
Women	104	134	136	141	135
Men	433	460	490	523	519
No report	-	-	-	-	-
Physics:					
Total	3,094	3,013	2,945	2,915	2,784
Women	185	185	181	190	189
Men	2,909	2,828	2,764	2,725	2,595
No report	-	-	-	-	-
Astronomy and space sciences:					
Total	423	427	420	430	437
Women	25	27	28	31	29
Men	398	400	392	399	408
No report	-	-	-	-	-
Meteorology:					
Total	1,971	2,120	2,194	2,295	2,371
Women	133	154	150	159	174
Men	1,838	1,966	2,044	2,136	2,197
No report	-	-	-	-	-
Geology:					
Total	5,184	5,210	5,239	5,299	5,263
Women	774	818	881	898	913
Men	4,410	4,392	4,358	4,401	4,350
No report	-	-	-	-	-
Oceanography:					
Total	606	619	571	559	553
Women	96	104	90	96	95
Men	510	515	481	463	458
No report	-	-	-	-	-
Other physical sciences:					
Total	4,365	4,662	5,010	5,191	5,224
Women	801	969	1,096	1,171	1,208
Men	3,564	3,693	3,914	4,020	4,016
No report	-	-	-	-	-
Social sciences:					
Total	17,507	18,008	19,289	20,443	20,619
Women	5,068	5,422	6,081	6,705	6,849
Men	12,439	12,586	13,208	13,738	13,770
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-3. Federal scientists and engineers, by occupational group and series and by sex: 1989-93

Occupational group and series	1989	1990	1991	1992	1993
Economics:					
Total	5,602	5,608	5,770	5,875	5,613
Women	1,361	1,405	1,499	1,557	1,471
Men	4,241	4,203	4,271	4,318	4,142
No report	-	-	-	-	-
Economics:					
Total	4,549	4,542	4,732	4,800	4,539
Women	1,124	1,153	1,255	1,294	1,195
Men	3,425	3,389	3,477	3,506	3,344
No report	-	-	-	-	-
Foreign agricultural affairs:					
Total	192	194	195	203	202
Women	25	24	27	31	32
Men	167	170	168	172	170
No report	-	-	-	-	-
Trade:					
Total	352	349	354	381	391
Women	103	109	108	121	135
Men	249	240	246	260	256
No report	-	-	-	-	-
Agricultural markets:					
Total	336	346	314	309	303
Women	83	90	75	79	80
Men	253	256	239	230	223
No report	-	-	-	-	-
Agricultural market reporting:					
Total	125	127	120	126	125
Women	15	17	19	20	20
Men	110	110	101	106	105
No report	-	-	-	-	-
Transportation industry:					
Total	48	50	55	56	53
Women	11	12	15	12	9
Men	37	38	40	44	44
No report	-	-	-	-	-
Political science:					
Total	2,202	2,323	2,530	2,757	2,847
Women	577	628	723	840	879
Men	1,625	1,695	1,807	1,917	1,968
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-3. Federal scientists and engineers, by occupational group and series and by sex: 1989-93

Occupational group and series	1989	1990	1991	1992	1993
Foreign affairs:					
Total	2,157	2,272	2,477	2,698	2,789
Women	561	610	705	820	860
Men	1,596	1,662	1,772	1,878	1,929
No report	-	-	-	-	-
International relations:					
Total	45	51	53	59	58
Women	16	18	18	20	19
Men	29	33	35	39	39
No report	-	-	-	-	-
Psychology:					
Total	3,252	3,355	3,555	3,682	3,750
Women	906	992	1,135	1,232	1,281
Men	2,346	2,363	2,420	2,450	2,469
No report	-	-	-	-	-
Sociology and anthropology:					
Total	109	110	120	120	121
Women	44	49	49	47	45
Men	65	61	71	73	76
No report	-	-	-	-	-
Sociology:					
Total	58	59	59	55	55
Women	28	33	31	29	28
Men	30	26	28	26	27
No report	-	-	-	-	-
Anthropology:					
Total	51	51	61	65	66
Women	16	16	18	18	17
Men	35	35	43	47	49
No report	-	-	-	-	-
Other social sciences:					
Total	6,342	6,612	7,314	8,009	8,288
Women	2,180	2,348	2,675	3,029	3,173
Men	4,162	4,264	4,639	4,980	5,115
No report	-	-	-	-	-
Unemployment insurance:					
Total	117	117	113	110	107
Women	35	36	37	36	35
Men	82	81	76	74	72
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-3. Federal scientists and engineers, by occupational group and series and by sex: 1989-93

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Occupational group and series	1989	1990	1991	1992	1993
Intelligence:					
Total	2,086	2,092	2,289	2,415	2,469
Women	469	505	566	594	608
Men	1,617	1,587	1,723	1,821	1,861
No report	-	-	-	-	-
International cooperation:					
Total	32	24	23	17	30
Women	12	9	7	7	18
Men	20	15	16	10	12
No report	-	-	-	-	-
Geography:					
Total	258	245	251	260	261
Women	71	67	67	69	70
Men	187	178	184	191	191
No report	-	-	-	-	-
Civil rights:					
Total	33	30	31	30	32
Women	15	12	12	10	12
Men	18	18	19	20	20
No report	-	-	-	-	-
Archeology:					
Total	679	721	820	885	903
Women	218	239	287	312	322
Men	461	482	533	573	581
No report	-	-	-	-	-
Manpower research:					
Total	38	38	39	41	44
Women	13	15	14	15	17
Men	25	23	25	26	27
No report	-	-	-	-	-
Educational research:					
Total	29	37	42	39	40
Women	7	12	16	14	16
Men	22	25	26	25	24
No report	-	-	-	-	-
General social science:					
Total	3,070	3,308	3,706	4,212	4,402
Women	1,340	1,453	1,669	1,972	2,075
Men	1,730	1,855	2,037	2,240	2,327
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-3. Federal scientists and engineers, by occupational group and series and by sex: 1989-93

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Occupational group and series	1989	1990	1991	1992	1993
All engineers:					
Total	96,093	96,582	97,807	97,847	95,560
Women	8,242	8,769	9,496	9,709	9,695
Men	87,850	87,813	88,311	88,138	85,863
No report	1	-	-	-	2
Aerospace:					
Total	8,433	8,624	8,777	8,584	8,330
Women	701	751	818	812	803
Men	7,732	7,873	7,959	7,772	7,527
No report	-	-	-	-	-
Chemical:					
Total	1,503	1,413	1,344	1,311	1,245
Women	293	275	267	259	242
Men	1,210	1,138	1,077	1,052	1,003
No report	-	-	-	-	-
Civil:					
Total	13,945	13,621	13,357	13,231	12,874
Women	1,162	1,200	1,252	1,295	1,263
Men	12,783	12,421	12,105	11,936	11,609
No report	-	-	-	-	2
Electrical, electronics, and computer:					
Total	31,121	31,899	32,753	32,955	32,374
Women	2,452	2,682	2,948	3,025	3,029
Men	28,669	29,217	29,805	29,930	29,345
No report	-	-	-	-	-
Computer:					
Total	1,151	1,480	1,849	2,052	2,191
Women	234	294	373	408	423
Men	917	1,186	1,476	1,644	1,768
No report	-	-	-	-	-
Electrical and electronics:					
Total	29,970	30,419	30,904	30,903	30,183
Women	2,218	2,388	2,575	2,617	2,606
Men	27,752	28,031	28,329	28,286	27,577
No report	-	-	-	-	-
Electrical engineering:					
Total	4,573	4,510	4,659	4,656	4,506
Women	356	383	433	441	440
Men	4,217	4,127	4,226	4,215	4,066
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-3. Federal scientists and engineers, by occupational group and series and by sex: 1989-93

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Occupational group and series	1989	1990	1991	1992	1993
Electronics engineering:					
Total	25,397	25,909	26,245	26,247	25,677
Women	1,862	2,005	2,142	2,176	2,166
Men	23,535	23,904	24,103	24,071	23,511
No report	-	-	-	-	-
Industrial:					
Total	3,463	3,419	3,173	3,016	2,725
Women	477	473	461	428	388
Men	2,986	2,946	2,712	2,588	2,337
No report	-	-	-	-	-
Safety:					
Total	471	469	459	459	460
Women	39	42	41	38	37
Men	432	427	418	421	423
No report	-	-	-	-	-
Fire prevention:					
Total	122	117	118	120	122
Women	7	9	9	13	13
Men	115	108	109	107	109
No report	-	-	-	-	-
Industrial:					
Total	2,870	2,833	2,596	2,437	2,143
Women	431	422	411	377	338
Men	2,439	2,411	2,185	2,060	1,805
No report	-	-	-	-	-
Mechanical:					
Total	12,186	11,787	11,763	11,532	11,159
Women	822	799	829	822	801
Men	11,364	10,988	10,934	10,710	10,358
No report	-	-	-	-	-
Other engineering:					
Total	25,442	25,819	26,640	27,218	26,853
Women	2,335	2,589	2,921	3,068	3,169
Men	23,106	23,230	23,719	24,150	23,684
No report	1	-	-	-	-
Agricultural:					
Total	378	368	362	368	360
Women	16	16	19	26	26
Men	362	352	343	342	334
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-3. Federal scientists and engineers, by occupational group and series and by sex: 1989-93

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Occupational group and series	1989	1990	1991	1992	1993
Biomedical:					
Total	313	337	350	342	333
Women	59	70	66	67	68
Men	254	267	284	275	265
No report	-	-	-	-	-
Environmental:					
Total	2,859	3,106	3,668	4,047	4,427
Women	618	694	845	934	1,040
Men	2,241	2,412	2,823	3,113	3,387
No report	-	-	-	-	-
Naval architecture:					
Total	812	781	747	744	687
Women	51	51	54	52	49
Men	761	730	693	692	638
No report	-	-	-	-	-
Materials and metallurgical:					
Total	1,549	1,521	1,507	1,495	1,448
Women	204	216	230	222	219
Men	1,345	1,305	1,277	1,273	1,229
No report	-	-	-	-	-
Metallurgical engineering:					
Total	1,172	1,173	1,174	1,183	1,158
Women	180	192	205	194	194
Men	992	981	969	989	964
No report	-	-	-	-	-
Ceramic engineering:					
Total	58	59	67	67	63
Women	9	9	10	12	11
Men	49	50	57	55	52
No report	-	-	-	-	-
Welding engineering:					
Total	87	75	73	67	64
Women	4	4	4	4	4
Men	83	71	69	63	60
No report	-	-	-	-	-
Metallurgy:					
Total	232	214	193	178	163
Women	11	11	11	12	10
Men	221	203	182	166	153
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-3. Federal scientists and engineers, by occupational group and series and by sex: 1989-93

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Occupational group and series	1989	1990	1991	1992	1993
Mining:					
Total	365	344	340	341	336
Women	18	14	15	18	17
Men	347	330	325	323	319
No report	-	-	-	-	-
Nuclear:					
Total	2,930	3,069	3,195	3,194	2,970
Women	182	201	211	202	188
Men	2,748	2,868	2,984	2,992	2,782
No report	-	-	-	-	-
Petroleum:					
Total	417	400	392	387	381
Women	38	33	30	31	29
Men	379	367	362	356	352
No report	-	-	-	-	-
General:					
Total	15,819	15,893	16,079	16,300	15,911
Women	1,149	1,294	1,451	1,516	1,533
Men	14,669	14,599	14,628	14,784	14,378
No report	1	-	-	-	-

KEY: "-" = Zero

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-4. Federal scientists and engineers, by major occupational group and highest degree level: 1989-93

Page 1 of 3

Major occupational group and highest degree level	1989	1990	1991	1992	1993
Total, All Occupations					
All levels	185,623	189,049	194,726	198,853	196,908
Ph.D	19,273	19,758	20,461	21,100	20,888
MS/MA	43,208	44,509	46,620	48,453	49,495
BS/BA	121,628	123,194	125,976	127,594	124,862
Professional	1,514	1,588	1,669	1,706	1,663
All scientists:					
All levels	89,530	92,467	96,919	101,006	101,348
Ph.D	16,546	16,952	17,543	18,068	17,810
MS/MA	24,699	25,559	26,997	28,193	28,523
BS/BA	47,275	48,886	51,232	53,560	53,837
Professional	1,010	1,070	1,147	1,185	1,178
Computer and mathematical sciences					
All levels	25,737	26,725	28,210	29,371	29,691
Ph.D	1,248	1,269	1,309	1,326	1,323
MS/MA	6,289	6,521	6,928	7,170	7,261
BS/BA	18,058	18,802	19,827	20,709	20,942
Professional	142	133	146	166	165
Life sciences:					
All levels	23,082	24,009	25,280	26,765	26,920
Ph.D	5,140	5,308	5,557	5,861	5,706
MS/MA	5,493	5,795	6,167	6,563	6,688
BS/BA	12,161	12,578	13,194	13,974	14,159
Professional	288	328	362	367	367
Physical sciences:					
All levels	23,204	23,725	24,140	24,427	24,118
Ph.D	6,450	6,582	6,746	6,824	6,709
MS/MA	6,124	6,279	6,443	6,534	6,501
BS/BA	10,377	10,608	10,692	10,811	10,667
Professional	253	256	259	258	241

See explanatory information, if any, and SOURCE at end of table.

Table B-4. Federal scientists and engineers, by major occupational group and highest degree level: 1989-93

Page 2 of 3

Major occupational group and highest degree level	1989	1990	1991	1992	1993
Social sciences:					
All levels	17,507	18,008	19,289	20,443	20,619
Ph.D	3,708	3,793	3,931	4,057	4,072
MS/MA	6,793	6,964	7,459	7,926	8,073
BS/BA	6,679	6,898	7,519	8,066	8,069
Professional	327	353	380	394	405
All engineers:					
All levels	96,093	96,582	97,807	97,847	95,560
Ph.D	2,727	2,806	2,918	3,032	3,078
MS/MA	18,509	18,950	19,623	20,260	20,972
BS/BA	74,353	74,308	74,744	74,034	71,025
Professional	504	518	522	521	485
Aerospace:					
All levels	8,433	8,624	8,777	8,584	8,330
Ph.D	516	528	551	557	561
MS/MA	2,001	2,101	2,218	2,229	2,257
BS/BA	5,890	5,966	5,985	5,776	5,494
Professional	26	29	23	22	18
Chemical:					
All levels	1,503	1,413	1,344	1,311	1,245
Ph.D	161	158	141	152	151
MS/MA	298	301	286	291	307
BS/BA	1,036	944	908	858	779
Professional	8	10	9	10	8
Civil:					
All levels	13,945	13,621	13,357	13,231	12,874
Ph.D	199	203	210	204	208
MS/MA	2,578	2,547	2,542	2,554	2,548
BS/BA	11,073	10,779	10,528	10,390	10,040
Professional	95	92	77	83	78
Electrical, electronics, and computer:					
All levels	31,121	31,899	32,753	32,955	32,374
Ph.D	586	619	650	680	705
MS/MA	5,232	5,472	5,641	6,041	6,414
BS/BA	25,189	25,700	26,338	26,110	25,141
Professional	114	108	124	124	114

See explanatory information, if any, and SOURCE at end of table.

Table B-4. Federal scientists and engineers, by major occupational group and highest degree level: 1989-93

Page 3 of 3

Major occupational group and highest degree level	1989	1990	1991	1992	1993
Industrial:					
All levels	3,463	3,419	3,173	3,016	2,725
Ph.D	23	20	17	19	18
MS/MA	643	653	621	619	609
BS/BA	2,780	2,730	2,522	2,365	2,086
Professional	17	16	13	13	12
Mechanical:					
All levels	12,186	11,787	11,763	11,532	11,159
Ph.D	258	262	287	297	298
MS/MA	1,631	1,642	1,740	1,766	1,883
BS/BA	10,237	9,822	9,673	9,411	8,921
Professional	60	61	63	58	57
Other engineering:					
All levels	25,442	25,819	26,640	27,218	26,853
Ph.D	984	1,016	1,062	1,123	1,137
MS/MA	6,126	6,234	6,575	6,760	6,954
BS/BA	18,148	18,367	18,790	19,124	18,564
Professional	184	202	213	211	198

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-5. Federal scientists and engineers, by major occupational group and highest degree field: 1989-93

Page 1 of 4

Major occupational group and highest degree field	1989	1990	1991	1992	1993
Total, All Occupations					
Total	185,623	189,049	194,726	198,853	196,908
Physical sciences	21,501	21,867	22,053	22,263	21,914
Computer and mathematical sciences	13,505	14,218	14,931	15,474	15,591
Life sciences	22,108	22,850	23,711	24,738	24,541
Social sciences	14,773	15,333	16,403	17,294	17,315
Engineering	86,270	87,288	88,325	88,378	86,177
Non-science/non-engineering	25,668	27,042	28,713	30,161	30,662
No report	1,798	451	590	545	708
All scientists:					
Total	89,530	92,467	96,919	101,006	101,348
Physical sciences	17,834	18,204	18,427	18,714	18,556
Computer and mathematical sciences	11,142	11,756	12,347	12,860	13,036
Life sciences	21,794	22,530	23,381	24,413	24,211
Social sciences	14,580	15,138	16,216	17,104	17,130
Engineering	3,383	3,434	3,538	3,673	3,713
Non-science/non-engineering	20,082	21,020	22,546	23,857	24,283
No report	715	385	464	385	419
Computer and mathematical sciences:					
Total	25,737	26,725	28,210	29,371	29,691
Physical sciences	982	975	986	1,014	996
Computer and mathematical sciences	10,372	10,971	11,547	12,052	12,244
Life sciences	942	1,015	1,080	1,102	1,074
Social sciences	2,980	3,071	3,236	3,287	3,272
Engineering	1,217	1,265	1,307	1,375	1,447
Non-science/non-engineering	8,880	9,358	9,965	10,474	10,577
No report	364	70	89	67	81
Life sciences:					
Total	23,082	24,009	25,280	26,765	26,920
Physical sciences	523	580	637	722	725
Computer and mathematical sciences	44	54	57	65	71
Life sciences	17,378	17,905	18,603	19,541	19,428
Social sciences	771	829	900	971	1,021
Engineering	263	284	312	361	385
Non-science/non-engineering	3,964	4,216	4,624	4,964	5,147
No report	139	141	147	141	143

See explanatory information, if any, and SOURCE at end of table.

Table B-5. Federal scientists and engineers, by major occupational group and highest degree field: 1989-93

Page 2 of 4

Major occupational group and highest degree field	1989	1990	1991	1992	1993
Physical sciences:					
Total	23,204	23,725	24,140	24,427	24,118
Physical sciences	16,198	16,509	16,671	16,826	16,685
Computer and mathematical sciences	594	594	603	611	582
Life sciences	2,914	3,052	3,169	3,211	3,123
Social sciences	337	353	391	404	404
Engineering	1,793	1,782	1,809	1,819	1,768
Non-science/non-engineering	1,181	1,275	1,341	1,395	1,386
No report	187	160	156	161	170
Social sciences:					
Total	17,507	18,008	19,289	20,443	20,619
Physical sciences	131	140	133	152	150
Computer and mathematical sciences	132	137	140	132	139
Life sciences	560	558	529	559	586
Social sciences	10,492	10,885	11,689	12,442	12,433
Engineering	110	103	110	118	113
Non-science/non-engineering	6,057	6,171	6,616	7,024	7,173
No report	25	14	72	16	25
All engineers:					
Total	96,093	96,582	97,807	97,847	95,560
Physical sciences	3,667	3,663	3,626	3,549	3,358
Computer and mathematical sciences	2,363	2,462	2,584	2,614	2,555
Life sciences	314	320	330	325	330
Social sciences	193	195	187	190	185
Engineering	82,887	83,854	84,787	84,705	82,464
Non-science/non-engineering	5,586	6,022	6,167	6,304	6,379
No report	1,083	66	126	160	289
Aerospace:					
Total	8,433	8,624	8,777	8,584	8,330
Physical sciences	415	408	398	388	360
Computer and mathematical sciences	331	315	318	314	290
Life sciences	15	12	11	12	12
Social sciences	12	13	12	9	5
Engineering	7,270	7,510	7,660	7,491	7,282
Non-science/non-engineering	352	365	372	363	363
No report	38	1	6	7	18
Chemical:					
Total	1,503	1,413	1,344	1,311	1,245
Physical sciences	122	108	97	99	94
Computer and mathematical sciences	4	3	3	5	6

See explanatory information, if any, and SOURCE at end of table.

Table B-5. Federal scientists and engineers, by major occupational group and highest degree field: 1989-93

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Major occupational group and highest degree field	1989	1990	1991	1992	1993
Chemical (continued):					
Life sciences	11	8	9	8	7
Social sciences	2	-	-	-	-
Engineering	1,327	1,254	1,190	1,157	1,086
Non-science/non-engineering	33	39	44	41	50
No report	4	1	1	1	2
Civil:					
Total	13,945	13,621	13,357	13,231	12,874
Physical sciences	109	107	100	104	96
Computer and mathematical sciences	34	43	44	44	44
Life sciences	44	49	54	57	64
Social sciences	33	36	34	36	29
Engineering	13,041	12,693	12,425	12,295	11,936
Non-science/non-engineering	660	687	691	687	689
No report	24	6	9	8	16
Electrical, electronics, and computer:					
Total	31,121	31,899	32,753	32,955	32,374
Physical sciences	1,511	1,507	1,490	1,446	1,382
Computer and mathematical sciences	1,182	1,260	1,387	1,432	1,425
Life sciences	69	66	66	66	67
Social sciences	48	53	53	57	58
Engineering	26,293	27,167	27,875	27,961	27,376
Non-science/non-engineering	1,684	1,833	1,857	1,940	1,978
No report	334	13	25	53	88
Industrial:					
Total	3,463	3,419	3,173	3,016	2,725
Physical sciences	50	47	40	34	27
Computer and mathematical sciences	42	40	38	44	40
Life sciences	11	10	9	7	6
Social sciences	10	11	10	12	10
Engineering	2,662	2,886	2,653	2,518	2,262
Non-science/non-engineering	365	412	394	373	345
No report	323	13	29	28	35
Mechanical:					
Total	12,186	11,787	11,763	11,532	11,159
Physical sciences	185	183	185	180	154
Computer and mathematical sciences	66	58	63	64	63
Life sciences	29	27	25	24	26
Social sciences	11	8	7	8	9
Engineering	11,248	10,874	10,840	10,612	10,246
Non-science/non-engineering	559	629	631	633	633
No report	88	8	12	11	28

See explanatory information, if any, and SOURCE at end of table.

Table B-5. Federal scientists and engineers, by major occupational group and highest degree field: 1989-93

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Major occupational group and highest degree field	1989	1990	1991	1992	1993
Other engineering:					
Total	25,442	25,819	26,640	27,218	26,853
Physical sciences	1,275	1,303	1,316	1,298	1,245
Computer and mathematical sciences	704	743	731	711	687
Life sciences	135	148	156	151	148
Social sciences	77	74	71	68	74
Engineering	21,046	21,470	22,144	22,671	22,276
Non-science/non-engineering	1,933	2,057	2,178	2,267	2,321
No report	272	24	44	52	102

KEY: "-" = Zero

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-6. Federal scientists and engineers, by major occupational group and primary work activity: 1989-93

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Major occupational group and primary work activity	1989	1990	1991	1992	1993
Total, All Occupations					
Total	185,623	189,049	194,726	198,853	196,908
Development	28,791	29,190	27,502	30,299	29,529
Research	21,242	21,381	21,768	22,246	21,670
Design	15,171	14,781	14,521	14,681	14,209
Data collection, processing, and analysis	14,236	14,325	14,795	14,951	14,675
Natural resources operations	11,488	11,904	12,455	13,235	13,461
Management	8,407	8,625	8,505	8,682	8,488
Installation, operations, and maintenance	11,480	11,429	11,608	11,623	11,353
Test and evaluation	9,712	10,095	10,160	10,409	10,495
Planning	6,374	6,238	6,223	6,271	6,169
Technical assistance and consulting	4,118	4,204	4,338	4,526	4,556
Production	5,708	5,703	5,836	5,884	5,659
Regulatory enforcement of licensing	4,951	5,332	5,867	6,026	5,910
Construction	5,170	4,940	4,746	4,698	4,682
Clinical practice, counseling, and ancillary medical service	3,430	3,625	3,981	4,201	4,440
Standards and specifications	1,674	1,692	1,620	1,642	1,506
Scientific and technical information	1,746	1,905	1,957	2,057	2,146
Research contract and grant administration	944	1,042	1,047	1,070	1,039
Teaching and training	376	406	442	431	471
Other - not elsewhere classified	8,329	8,867	8,682	8,740	8,244
Activity unknown	22,276	23,365	28,673	27,181	28,206
All scientists:					
Total	89,530	92,467	96,919	101,006	101,348
Development	6,181	6,184	5,242	6,130	5,953
Research	16,850	16,946	17,251	17,742	17,177
Design	308	308	289	308	307
Data collection, processing, and analysis	12,577	12,666	13,131	13,253	13,016
Natural resources operations	10,377	10,762	11,191	11,910	12,115
Management	1,965	2,007	2,167	2,308	2,322
Installation, operations, and maintenance	311	321	316	325	333
Test and evaluation	2,356	2,513	2,546	2,648	2,639
Planning	3,399	3,331	3,364	3,425	3,350
Technical assistance and consulting	2,384	2,494	2,555	2,709	2,772

See explanatory information, if any, and SOURCE at end of table.

Table B-6. Federal scientists and engineers, by major occupational group and primary work activity: 1989-93

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Major occupational group and primary work activity	1989	1990	1991	1992	1993
All scientists (continued):					
Production	170	181	168	160	165
Regulatory enforcement of licensing	1,872	2,109	2,389	2,488	2,442
Construction	142	141	132	135	136
Clinical practice, counseling, and ancillary medical service	3,354	3,548	3,900	4,111	4,349
Standards and specifications	417	444	422	450	431
Scientific and technical information	1,048	1,131	1,124	1,208	1,247
Research contract and grant administration	662	710	700	703	686
Teaching and training	236	264	261	267	292
Other - not elsewhere classified	2,850	3,131	3,310	3,647	3,457
Activity unknown	22,071	23,276	26,461	27,079	28,159
Computer and mathematical sciences:					
Total	25,737	26,725	28,210	29,371	29,691
Development	3,742	3,780	3,248	3,786	3,682
Research	1,091	1,133	1,143	1,148	1,168
Design	88	102	90	88	84
Data collection, processing and analysis	3,885	3,919	4,052	4,036	3,813
Natural resources operations	33	42	42	41	44
Management	343	377	381	375	354
Installation, operations, and maintenance	128	127	123	123	121
Test and evaluation	497	508	463	555	584
Planning	370	373	390	393	380
Technical assistance and consulting	182	160	149	147	131
Production	39	50	53	46	51
Regulatory enforcement of licensing	32	34	42	45	42
Construction	2	3	2	2	2
Clinical practice, counseling, and ancillary medical service	20	15	23	20	17
Standards and specifications	17	23	25	36	36
Scientific and technical information	97	104	109	129	125
Research contract and grant administration	64	67	57	58	61
Teaching and training	32	31	28	28	29
Other - not elsewhere classified	698	736	662	643	542
Activity unknown	14,377	15,141	17,128	17,672	18,425

See explanatory information, if any, and SOURCE at end of table.

Table B-6. Federal scientists and engineers, by major occupational group and primary work activity: 1989-93

Major occupational group and primary work activity	1989	1990	1991	1992	1993
Life sciences:					
Total	23,082	24,009	25,280	26,765	26,920
Development	171	174	168	178	183
Research	6,389	6,512	6,808	7,103	6,823
Design	17	16	13	11	10
Data collection, processing, and analysis	936	949	975	1,018	1,047
Natural resources operations	9,147	9,418	9,736	10,351	10,542
Management	363	377	412	437	427
Installation, operations, and maintenance	48	53	48	49	60
Test and evaluation	359	393	429	428	422
Planning	888	881	912	940	965
Technical assistance and consulting	910	963	983	1,038	1,053
Production	2	2	2	2	3
Regulatory enforcement of licensing	549	635	760	826	813
Construction	19	14	21	24	37
Clinical practice, counseling, and ancillary medical service	384	388	402	414	404
Standards and specifications	157	162	145	150	144
Scientific and technical information	163	177	197	231	229
Research contract and grant administration	148	170	189	187	179
Teaching and training	89	79	75	77	83
Other - not elsewhere classified	325	278	320	371	376
Activity unknown	2,018	2,368	2,685	2,930	3,120
Physical sciences:					
Total	23,204	23,725	24,140	24,427	24,118
Development	1,990	1,955	1,581	1,899	1,829
Research	7,777	7,718	7,623	7,751	7,484
Design	189	177	177	195	198
Data collection, processing, and analysis	5,422	5,503	5,656	5,717	5,809
Natural resources operations	738	786	808	862	868
Management	967	946	1,002	1,053	1,040
Installation, operations, and maintenance	128	135	143	151	151
Test and evaluation	1,429	1,539	1,583	1,587	1,549
Planning	443	408	400	417	392
Technical assistance and consulting	640	696	745	769	776

See explanatory information, if any, and SOURCE at end of table.

Table B-6. Federal scientists and engineers, by major occupational group and primary work activity: 1989-93

Major occupational group and primary work activity	1989	1990	1991	1992	1993
Physical sciences (continued):					
Production	128	129	113	111	110
Regulatory enforcement of licensing	1,150	1,309	1,455	1,488	1,468
Construction	117	117	102	103	93
Clinical practice, counseling, and ancillary medical service	233	237	231	227	221
Standards and specifications	209	220	213	225	209
Scientific and technical information	697	754	718	734	784
Research contract and grant administration	322	351	331	339	326
Teaching and training	72	94	88	92	107
Other - not elsewhere classified	499	629	643	701	701
Activity unknown	54	22	528	6	3
Social sciences:					
Total	17,507	18,008	19,289	20,443	20,619
Development	278	275	245	267	259
Research	1,593	1,583	1,677	1,740	1,702
Design	14	13	9	14	15
Data collection, processing, and analysis	2,334	2,295	2,448	2,482	2,347
Natural resources operations	459	516	605	656	661
Management	292	307	372	443	501
Installation, operations, and maintenance	7	6	2	2	1
Test and evaluation	71	73	71	78	84
Planning	1,698	1,669	1,662	1,675	1,613
Technical assistance and consulting	652	675	678	755	812
Production	1	-	-	1	1
Regulatory enforcement of licensing	141	131	132	129	119
Construction	4	7	7	6	4
Clinical practice, counseling, and ancillary medical service	2,717	2,908	3,244	3,450	3,707
Standards and specifications	34	39	39	39	42
Scientific and technical information	91	96	100	114	109
Research contract and grant administration	128	122	123	119	120
Teaching and training	43	60	70	70	73
Other - not elsewhere classified	1,328	1,488	1,685	1,932	1,838
Activity unknown	5,622	5,745	6,120	6,471	6,611

See explanatory information, if any, and SOURCE at end of table.

Table B-6. Federal scientists and engineers, by major occupational group and primary work activity: 1989-93

Major occupational group and primary work activity	1989	1990	1991	1992	1993
All engineers:					
Total	96,093	96,582	97,807	97,847	95,560
Development	22,610	23,006	22,260	24,169	23,576
Research	4,392	4,435	4,517	4,504	4,493
Design	14,863	14,473	14,232	14,373	13,902
Data collection, processing, and analysis	1,659	1,659	1,664	1,698	1,659
Natural resources operations	1,111	1,142	1,264	1,325	1,346
Management	6,442	6,618	6,338	6,374	6,166
Installation, operations, and maintenance	11,169	11,108	11,292	11,298	11,020
Test and evaluation	7,356	7,582	7,614	7,761	7,856
Planning	2,975	2,907	2,859	2,846	2,819
Technical assistance and consulting	1,734	1,710	1,783	1,817	1,784
Production	5,538	5,522	5,668	5,724	5,494
Regulatory enforcement of licensing	3,079	3,223	3,478	3,538	3,468
Construction	5,028	4,799	4,614	4,563	4,546
Clinical practice, counseling, and ancillary medical service	76	77	81	90	91
Standards and specifications	1,257	1,248	1,198	1,192	1,075
Scientific and technical information	698	774	833	849	899
Research contract and grant administration	282	332	347	367	353
Teaching and training	140	142	181	164	179
Other - not elsewhere classified	5,479	5,736	5,372	5,093	4,787
Activity unknown	205	89	2,212	102	47
Aerospace:					
Total	8,433	8,624	8,777	8,584	8,330
Development	3,653	3,676	3,745	3,784	3,679
Research	1,275	1,294	1,315	1,296	1,258
Design	457	469	492	473	468
Data collection, processing, and analysis	100	97	87	89	80
Natural resources operations	-	-	-	-	-
Management	434	465	388	387	378
Installation, operations, and maintenance	460	475	475	470	459
Test and evaluation	965	970	1,009	1,015	1,012
Planning	64	61	59	59	56
Technical assistance and consulting	48	48	43	37	30

See explanatory information, if any, and SOURCE at end of table.

Table B-6. Federal scientists and engineers, by major occupational group and primary work activity: 1989-93

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Major occupational group and primary work activity	1989	1990	1991	1992	1993
Production	320	383	367	370	378
Regulatory enforcement of licensing	114	124	131	131	123
Construction	-	-	-	-	-
Clinical practice, counseling, and ancillary medical service	-	-	-	-	-
Standards and specifications	97	91	86	76	69
Scientific and technical information	129	131	123	118	113
Research contract and grant administration	10	9	8	6	6
Teaching and training	5	5	7	6	5
Other - not elsewhere classified	299	325	332	248	199
Activity unknown	3	1	110	19	17
Chemical:					
Total	1,503	1,413	1,344	1,311	1,245
Development	470	417	400	394	371
Research	291	285	257	245	243
Design	51	53	56	56	59
Data collection, processing, and analysis	58	55	58	65	67
Natural resources operations	2	2	5	2	2
Management	75	65	64	61	69
Installation, operations, and maintenance	35	32	30	29	22
Test and evaluation	96	92	97	99	95
Planning	7	9	12	16	8
Technical assistance and consulting	25	33	31	35	31
Production	167	154	146	134	128
Regulatory enforcement of licensing	51	43	36	36	34
Construction	5	2	7	9	7
Clinical practice, counseling, and ancillary medical service	-	-	-	-	-
Standards and specifications	40	35	30	30	23
Scientific and technical information	21	22	22	23	24
Research contract and grant administration	37	36	32	31	26
Teaching and training	1	-	-	1	-
Other - not elsewhere classified	71	78	45	44	36
Activity unknown	-	-	16	1	-

See explanatory information, if any, and SOURCE at end of table.

Table B-6 Federal scientists and engineers, by major occupational group and primary work activity: 1989-93

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Major occupational group and primary work activity	1989	1990	1991	1992	1993
Civil:					
Total	13,945	13,621	13,357	13,231	12,874
Development	238	220	218	236	213
Research	347	349	354	348	355
Design	4,865	4,636	4,522	4,506	4,428
Data collection, processing, and analysis	306	293	298	278	273
Natural resources operations	650	687	747	777	767
Management	692	719	762	720	682
Installation, operations, and maintenance	747	742	712	714	703
Test and evaluation	93	85	80	84	82
Planning	1,416	1,370	1,319	1,291	1,260
Technical assistance and consulting	359	347	321	338	299
Production	22	20	20	24	21
Regulatory enforcement of licensing	230	234	250	267	261
Construction	3,205	2,980	2,816	2,706	2,633
Clinical practice, counseling, and ancillary medical service	2	4	3	4	3
Standards and specifications	58	56	57	49	48
Scientific and technical information	36	38	38	36	33
Research contract and grant administration	12	13	17	17	13
Teaching and training	11	12	11	11	10
Other - not elsewhere classified	640	775	794	816	784
Activity unknown	16	41	18	9	6
Electrical, electronics, and computer:					
Total	31,121	31,899	32,753	32,955	32,374
Development	11,192	11,680	11,167	12,654	12,475
Research	934	976	1,012	1,068	1,074
Design	3,756	3,756	3,726	3,809	3,608
Data collection, processing, and analysis	523	542	520	541	510
Natural resources operations	12	13	15	19	16
Management	1,312	1,337	1,147	1,108	1,026
Installation, operations, and maintenance	5,061	5,006	5,101	5,184	5,129
Test and evaluation	3,419	3,649	3,661	3,736	3,883
Planning	258	247	255	244	256
Technical assistance and consulting	212	213	247	247	235

See explanatory information, if any, and SOURCE at end of table.

Table B-6. Federal scientists and engineers, by major occupational group and primary work activity: 1989-93

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Major occupational group and primary work activity	1989	1990	1991	1992	1993
Electrical, electronics, and computer (continued):					
Production	1,449	1,441	1,563	1,639	1,678
Regulatory enforcement of licensing	331	343	372	387	378
Construction	393	379	372	381	396
Clinical practice, counseling, and ancillary medical service	3	4	5	5	5
Standards and specifications	258	273	294	297	285
Scientific and technical information	199	212	217	219	216
Research contract and grant administration	25	33	35	47	42
Teaching and training	42	46	55	48	51
Other - not elsewhere classified	1,603	1,723	1,539	1,278	1,094
Activity unknown	139	26	1,450	44	17
Industrial:					
Total	3,463	3,419	3,173	3,016	2,725
Development	205	212	185	186	175
Research	57	54	50	54	58
Design	243	239	212	208	184
Data collection, processing, and analysis	40	37	36	31	24
Natural resources operations	1	1	1	2	1
Management	279	272	241	243	238
Installation, operations, and maintenance	547	551	530	470	415
Test and evaluation	44	48	52	60	57
Planning	160	168	147	142	128
Technical assistance and consulting	97	89	86	83	71
Production	1,150	1,107	1,022	973	847
Regulatory enforcement of licensing	139	150	160	152	156
Construction	31	38	36	38	38
Clinical practice, counseling, and ancillary medical service	4	2	3	5	10
Standards and specifications	64	62	58	58	48
Scientific and technical information	23	21	22	23	21
Research contract and grant administration	3	12	10	7	6
Teaching and training	7	4	9	5	4
Other - not elsewhere classified	361	347	286	271	243
Activity unknown	8	5	27	5	1

See explanatory information, if any, and SOURCE at end of table.

Table B-6. Federal scientists and engineers, by major occupational group and primary work activity: 1989-93

Major occupational group and primary work activity	1989	1990	1991	1992	1993
Mechanical:					
Total	12,186	11,787	11,763	11,532	11,159
Development	3,205	3,176	2,902	3,241	3,138
Research	417	423	458	413	426
Design	3,251	3,051	2,907	2,918	2,798
Data collection, processing, and analysis	117	125	115	123	127
Natural resources operations	2	-	-	3	4
Management	338	337	375	392	365
Installation, operations, and maintenance	1,324	1,250	1,245	1,212	1,134
Test and evaluation	1,252	1,221	1,220	1,227	1,241
Planning	89	87	89	91	98
Technical assistance and consulting	87	70	66	65	72
Production	676	659	679	632	632
Regulatory enforcement of licensing	53	62	71	75	74
Construction	445	428	410	404	404
Clinical practice, counseling, and ancillary medical service	1	1	1	1	1
Standards and specifications	214	196	172	202	181
Scientific and technical information	63	61	62	63	64
Research contract and grant administration	26	28	30	39	41
Teaching and training	-	-	-	-	2
Other - not elsewhere classified	610	605	517	421	356
Activity unknown	16	7	444	10	1
Other engineering:					
Total	25,442	25,819	26,640	27,218	26,853
Development	3,647	3,625	3,643	3,674	3,525
Research	1,071	1,054	1,071	1,080	1,079
Design	2,240	2,269	2,317	2,403	2,357
Data collection, processing, and analysis	515	510	550	571	578
Natural resources operations	444	439	496	522	556
Management	3,312	3,423	3,361	3,463	3,408
Installation, operations, and maintenance	2,995	3,052	3,199	3,219	3,158
Test and evaluation	1,487	1,517	1,495	1,540	1,486
Planning	981	965	978	1,003	1,013
Technical assistance and consulting	906	910	989	1,012	1,046
Production	1,754	1,758	1,871	1,952	1,810
Regulatory enforcement of licensing	2,161	2,267	2,458	2,490	2,442
Construction	949	972	973	1,025	1,068
Clinical practice, counseling, and ancillary medical service	66	66	69	75	72
Standards and specifications	526	535	501	480	421

See explanatory information, if any, and SOURCE at end of table.

Table B-6. Federal scientists and engineers, by major occupational group and primary work activity: 1989-93

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Major occupational group and primary work activity	1989	1990	1991	1992	1993
Other engineering (continued):					
Scientific and technical information	227	289	349	367	428
Research contract and grant administration	169	201	215	220	219
Teaching and training	74	75	99	93	107
Other - not elsewhere classified	1,895	1,883	1,859	2,015	2,075
Activity unknown	23	9	147	14	5

KEY: "-" = Zero

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

Page 1 of 15

Agency and primary work activity	1989	1990	1991	1992	1993
Total, All Agencies					
Total	185,623	189,049	194,726	198,853	196,908
Development	28,791	29,190	27,502	30,299	29,529
Research	21,242	21,381	21,768	22,246	21,670
Design	15,171	14,781	14,521	14,681	14,209
Data collection, processing, and analysis	14,236	14,325	14,795	14,951	14,675
Natural resources operations	11,488	11,904	12,455	13,235	13,461
Management	8,407	8,625	8,505	8,682	8,488
Installation, operations, and maintenance	11,480	11,429	11,608	11,623	11,353
Test and evaluation	9,712	10,095	10,160	10,409	10,495
Planning	6,374	6,238	6,223	6,271	6,169
Technical assistance and consulting	4,118	4,204	4,338	4,526	4,556
Production	5,708	5,703	5,836	5,884	5,659
Regulatory enforcement of licensing	4,951	5,332	5,867	6,026	5,910
Construction	5,170	4,940	4,746	4,698	4,682
Clinical practice, counseling, and ancillary medical service	3,430	3,625	3,981	4,201	4,440
Standards and specifications	1,674	1,692	1,620	1,642	1,506
Scientific and technical information	1,746	1,905	1,957	2,057	2,146
Research contract and grant administration	944	1,042	1,047	1,070	1,039
Teaching and training	376	406	442	431	471
Other - not elsewhere classified	8,329	8,867	8,682	8,740	8,244
Activity unknown	22,276	23,365	28,673	27,181	28,206
Department of Agriculture:					
Total	16,875	17,068	17,475	18,073	17,764
Development	95	88	82	93	99
Research	3,362	3,286	3,359	3,448	3,239
Design	498	470	455	438	397
Data collection, processing, and analysis	1,131	1,109	1,165	1,143	1,124
Natural resources operations	8,344	8,618	8,847	9,233	9,199
Management	337	349	383	386	387
Installation, operations, and maintenance	34	37	39	39	42
Test and evaluation	236	243	263	262	262
Planning	531	518	504	515	520
Technical assistance and consulting	608	566	549	576	558
Production	3	3	3	5	6
Regulatory enforcement of licensing	45	39	43	43	49
Construction	275	262	252	232	216
Clinical practice, counseling, and ancillary medical service	3	4	5	6	5
Standards and specifications	10	18	20	20	16

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

Agency and primary work activity	1989	1990	1991	1992	1993
Department of Agriculture (continued):					
Scientific and technical information	113	113	131	154	151
Research contract and grant administration	24	31	22	23	24
Teaching and training	3	1	5	7	11
Other - not elsewhere classified	45	52	66	74	70
Activity unknown	1,178	1,261	1,282	1,376	1,389
Department of Commerce:					
Total	7,768	8,006	8,312	8,660	8,766
Development	465	431	415	436	444
Research	2,086	2,158	2,207	2,315	2,298
Design	52	51	56	51	52
Data collection, processing, and analysis	3,303	3,428	3,592	3,650	3,607
Natural resources operations	42	47	56	58	51
Management	190	187	199	211	229
Installation, operations, and maintenance	90	94	98	106	113
Test and evaluation	53	53	59	57	56
Planning	120	117	130	126	130
Technical assistance and consulting	92	88	70	89	90
Production	-	1	1	1	1
Regulatory enforcement of licensing	31	37	32	33	32
Construction	24	22	27	26	30
Clinical practice, counseling, and ancillary medical service	-	-	-	-	-
Standards and specifications	23	31	29	36	36
Scientific and technical information	99	108	109	105	101
Research contract and grant administration	23	24	21	16	22
Teaching and training	24	23	19	32	43
Other - not elsewhere classified	62	63	67	71	87
Activity unknown	989	1,043	1,125	1,241	1,344
Department of Defense:					
Total	94,194	93,949	94,042	94,213	92,163
Development	21,499	21,857	19,861	22,638	22,008
Research	5,305	5,226	5,003	5,028	4,895
Design	12,127	11,731	11,281	11,396	10,995
Data collection, processing, and analysis	3,303	3,236	3,087	3,174	3,034
Natural resources operations	452	433	528	606	659
Management	5,029	5,084	4,745	4,670	4,476
Installation, operations, and maintenance	8,800	8,675	8,685	8,653	8,419
Test and evaluation	7,133	7,294	7,220	7,487	7,609
Planning	2,941	2,850	2,864	2,893	2,813
Technical assistance and consulting	883	883	877	863	829

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

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Agency and primary work activity	1989	1990	1991	1992	1993
Department of Defense (continued):					
Production	446	477	586	654	647
Regulatory enforcement of licensing	3,420	3,227	2,998	2,963	2,969
Construction					
Clinical practice, counseling, and ancillary	797	778	840	872	874
medical service	852	800	708	720	629
Standards and specifications					
	805	847	854	856	832
Scientific and technical information	146	170	179	189	194
Research contract and grant administration	256	276	300	278	301
Teaching and training	5,210	5,234	4,644	4,337	3,966
Other - not elsewhere classified	9,421	9,535	13,319	10,436	10,719
Activity unknown					
Department of the Army:	34,957	34,271	34,295	34,192	33,300
Total	6,512	6,599	7,272	7,450	7,375
Development	2,375	2,382	2,436	2,114	2,081
Research	4,625	4,398	4,404	4,526	4,493
Design	1,135	1,134	1,099	1,114	1,057
Data collection, processing, and analysis	299	284	341	406	436
Natural resources operations					
	3,307	3,388	3,052	2,966	2,852
Management	1,429	1,377	1,396	1,327	1,302
Installation, operations, and maintenance	1,396	1,372	1,425	1,420	1,354
Test and evaluation	2,137	2,021	2,026	2,053	1,943
Planning	366	358	344	347	321
Technical assistance and consulting					
	1,238	1,190	1,351	1,388	1,314
Production	392	411	515	580	558
Regulatory enforcement of licensing	2,378	2,216	1,980	1,966	1,967
Construction					
Clinical practice, counseling, and ancillary	514	507	550	531	512
medical service	260	239	159	165	111
Standards and specifications					
	234	255	253	251	229
Scientific and technical information	72	68	61	59	56
Research contract and grant administration	85	101	110	102	112
Teaching and training	2,758	2,693	2,168	2,018	1,872
Other - not elsewhere classified	3,445	3,278	3,353	3,409	3,355
Activity unknown					
Department of the Navy:	39,076	39,264	39,155	38,892	37,650
Total	10,122	10,322	7,650	10,425	10,088
Development	1,912	1,835	1,535	1,848	1,818
Research	5,932	5,755	5,396	5,467	5,142
Design	1,174	1,183	1,078	1,126	1,060
Data collection, processing, and analysis	90	88	107	122	129
Natural resources operations					

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

Agency and primary work activity	1989	1990	1991	1992	1993
Department of the Navy (continued):					
Management	1,224	1,186	1,148	1,119	984
Installation, operations, and maintenance	4,578	4,606	4,686	4,640	4,420
Test and evaluation	4,747	4,893	4,765	4,993	5,163
Planning	378	406	406	393	416
Technical assistance and consulting	301	295	285	258	255
Production	2,176	2,084	2,081	2,049	1,900
Regulatory enforcement of licensing	28	28	29	35	35
Construction	693	669	692	678	685
Clinical practice, counseling, and ancillary medical service	159	163	188	223	248
Standards and specifications	300	269	253	239	231
Scientific and technical information	253	267	270	277	276
Research contract and grant administration	65	77	94	110	119
Teaching and training	38	50	64	59	62
Other - not elsewhere classified	1,969	2,033	1,964	1,736	1,507
Activity unknown	2,937	3,055	6,464	3,095	3,112
Department of the Air Force:					
Total	16,502	16,267	16,063	16,273	16,281
Development	4,492	4,474	4,508	4,359	4,134
Research	822	837	858	927	914
Design	1,484	1,480	1,393	1,317	1,272
Data collection, processing, and analysis	669	681	672	682	683
Natural resources operations	63	61	80	75	92
Management	397	386	417	470	525
Installation, operations, and maintenance	2,744	2,638	2,547	2,621	2,628
Test and evaluation	923	963	947	953	974
Planning	390	384	390	392	406
Technical assistance and consulting	170	188	203	211	226
Production	1,171	877	806	735	753
Regulatory enforcement of licensing	26	36	40	37	53
Construction	329	320	305	292	287
Clinical practice, counseling, and ancillary medical service	118	105	93	109	104
Standards and specifications	37	38	39	37	27
Scientific and technical information	300	306	302	297	296
Research contract and grant administration	9	9	8	5	4
Teaching and training	43	43	46	46	52
Other - not elsewhere classified	329	361	379	447	459
Activity unknown	1,986	2,080	2,030	2,261	2,392

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

Agency and primary work activity	1989	1990	1991	1992	1993
Other Defense Agencies:					
Total	3,659	4,147	4,529	4,856	4,932
Development	373	462	431	404	411
Research	196	172	174	139	82
Design	86	98	88	86	88
Data collection, processing, and analysis	325	238	238	252	234
Natural resources operations	-	-	-	3	2
Management	101	124	128	115	115
Installation, operations, and maintenance	49	54	56	65	69
Test and evaluation	67	66	83	121	118
Planning	36	39	42	55	48
Technical assistance and consulting	46	42	45	47	27
Production	784	1,185	1,225	1,328	1,328
Regulatory enforcement of licensing	-	2	2	2	1
Construction	20	22	21	27	30
Clinical practice, counseling, and ancillary medical service	6	3	9	9	10
Standards and specifications	255	254	257	279	260
Scientific and technical information	18	19	29	31	31
Research contract and grant administration	-	16	16	15	15
Teaching and training	90	82	80	71	75
Other - not elsewhere classified	154	147	133	136	128
Activity unknown	1,053	1,122	1,472	1,671	1,860
Department of Energy:					
Total	3,838	4,106	4,809	5,302	5,132
Development	442	422	535	517	453
Research	155	168	173	169	150
Design	244	235	270	300	261
Data collection, processing, and analysis	236	230	251	259	258
Natural resources operations	48	53	66	79	92
Management	510	567	689	837	837
Installation, operations, and maintenance	340	362	406	401	383
Test and evaluation	56	56	61	68	66
Planning	190	185	196	203	198
Technical assistance and consulting	114	136	236	309	343
Production	241	267	257	274	257
Regulatory enforcement of licensing	367	394	431	469	432
Construction	148	141	179	168	145
Clinical practice, counseling, and ancillary medical service	2	1	1	-	-
Standards and specifications	29	48	52	53	46

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

Agency and primary work activity	1989	1990	1991	1992	1993
Department of Energy (continued):					
Scientific and technical information	56	50	61	74	69
Research contract and grant administration	164	174	191	203	206
Teaching and training	1	3	8	7	6
Other - not elsewhere classified	164	236	293	385	389
Activity unknown	331	378	453	527	541
Department of Health & Human Services:					
Total	8,121	8,734	9,244	9,683	9,614
Development	122	120	110	110	110
Research	3,770	3,950	4,209	4,364	4,195
Design	67	74	87	111	109
Data collection, processing, and analysis	592	620	658	662	633
Natural resources operations	2	2	2	1	1
Management	77	80	86	76	71
Installation, operations, and maintenance	28	28	30	35	39
Test and evaluation	815	949	1,004	1,018	1,002
Planning	103	102	93	109	101
Technical assistance and consulting	491	486	483	567	603
Production	1	1	1	1	1
Regulatory enforcement of licensing	328	425	474	465	451
Construction	27	32	33	38	44
Clinical practice, counseling, and ancillary medical service	110	123	132	142	148
Standards and specifications	89	109	95	89	90
Scientific and technical information	56	53	49	54	57
Research contract and grant administration	163	178	187	186	173
Teaching and training	10	11	12	11	10
Other - not elsewhere classified	58	62	55	60	67
Activity unknown	1,212	1,329	1,444	1,584	1,709
Department of Housing & Urban Development:					
Total	390	395	431	457	440
Development	4	3	3	2	2
Research	15	12	9	9	8
Design	4	10	11	10	9
Data collection, processing, and analysis	21	22	23	20	19
Natural resources operations	-	-	-	-	-
Management	7	9	9	11	13
Installation, operations, and maintenance	27	28	29	26	22
Test and evaluation	-	-	-	-	-
Planning	32	28	28	26	24
Technical assistance and consulting	14	14	11	13	15

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

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Agency and primary work activity	1989	1990	1991	1992	1993
Department of Housing & Urban Development (continued):					
Production	-	-	-	-	-
Regulatory enforcement of licensing	1	1	2	2	2
Construction	41	38	38	37	34
Clinical practice, counseling, and ancillary medical service	-	-	-	1	1
Standards and specifications	4	4	4	4	4
Scientific and technical information	2	4	2	1	-
Research contract and grant administration	-	1	1	1	-
Teaching and training	-	-	-	-	-
Other - not elsewhere classified	91	93	115	121	116
Activity unknown	127	128	146	173	171
Department of the Interior:					
Total	11,846	12,046	12,502	13,142	13,450
Development	240	236	250	268	285
Research	2,280	2,257	2,306	2,462	2,457
Design	733	750	727	740	736
Data collection, processing, and analysis	2,029	2,042	2,179	2,136	2,200
Natural resources operations	2,588	2,743	2,949	3,253	3,454
Management	376	357	364	376	339
Installation, operations, and maintenance	251	259	255	262	258
Test and evaluation	49	52	45	38	42
Planning	880	857	854	842	831
Technical assistance and consulting	508	517	540	571	605
Production	8	7	6	7	5
Regulatory enforcement of licensing	121	105	99	115	110
Construction	448	421	389	373	393
Clinical practice, counseling, and ancillary medical service	-	1	7	5	4
Standards and specifications	208	204	184	181	180
Scientific and technical information	218	229	217	212	191
Research contract and grant administration	13	13	18	18	17
Teaching and training	14	12	14	17	17
Other - not elsewhere classified	224	278	341	414	428
Activity unknown	658	706	758	852	898
Department of Justice:					
Total	1,579	1,752	2,026	2,380	2,583
Development	15	16	16	17	26
Research	114	116	139	174	188
Design	3	3	1	1	4
Data collection, processing, and analysis	105	102	91	81	85
Natural resources operations	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

Agency and primary work activity	1989	1990	1991	1992	1993
Department of Justice (continued):					
Management	16	15	14	20	25
Installation, operations, and maintenance	4	3	4	3	4
Test and evaluation	3	4	5	7	12
Planning	1	1	-	2	-
Technical assistance and consulting	12	8	13	14	13
Production	-	-	-	-	1
Regulatory enforcement of licensing	-	-	-	-	-
Construction	2	2	2	3	-
Clinical practice, counseling, and ancillary medical service	152	163	214	244	303
Standards and specifications	-	-	-	-	1
Scientific and technical information	15	16	14	21	19
Research contract and grant administration	14	14	13	13	19
Teaching and training	-	-	-	-	1
Other - not elsewhere classified	546	773	856	995	999
Activity unknown	577	516	644	785	883
Department of Labor:					
Total	1,891	1,926	2,072	2,167	2,141
Development	8	6	5	6	4
Research	55	80	106	113	129
Design	-	-	-	-	-
Data collection, processing, and analysis	1,066	1,087	1,218	1,309	1,265
Natural resources operations	3	3	2	1	1
Management	11	10	10	10	10
Installation, operations, and maintenance	2	2	2	2	2
Test and evaluation	59	61	60	58	56
Planning	40	42	36	35	35
Technical assistance and consulting	104	102	104	96	89
Production	-	-	-	-	-
Regulatory enforcement of licensing	121	124	120	120	121
Construction	-	-	-	-	-
Clinical practice, counseling, and ancillary medical service	1	1	1	1	1
Standards and specifications	22	23	21	26	24
Scientific and technical information	1	-	-	-	-
Research contract and grant administration	1	1	1	1	1
Teaching and training	3	3	3	3	5
Other - not elsewhere classified	92	83	78	69	65
Activity unknown	302	298	305	317	333

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

Agency and primary work activity	1989	1990	1991	1992	1993
Department of State:					
Total	2,877	3,049	3,218	3,424	3,401
Development	7	3	4	3	3
Research	5	2	1	3	3
Design	23	17	19	18	17
Data collection, processing, and analysis	264	246	213	209	181
Natural resources operations	1	-	-	-	-
Management	41	43	34	34	36
Installation, operations, and maintenance	143	157	157	165	164
Test and evaluation	-	-	-	-	-
Planning	661	670	667	652	647
Technical assistance and consulting	11	10	8	9	6
Production	-	-	-	-	-
Regulatory enforcement of licensing	-	-	-	-	-
Construction	11	11	10	10	10
Clinical practice, counseling, and ancillary medical service	-	-	-	1	1
Standards and specifications	-	1	-	-	-
Scientific and technical information	18	18	18	14	15
Research contract and grant administration	-	-	-	-	-
Teaching and training	1	1	1	1	1
Other - not elsewhere classified	5	9	12	17	13
Activity unknown	1,686	1,861	2,074	2,288	2,304
Department of Transportation:					
Total	4,580	4,763	5,101	5,403	5,462
Development	459	416	397	384	365
Research	134	150	183	193	208
Design	627	613	632	655	660
Data collection, processing, and analysis	67	77	69	68	64
Natural resources operations	1	1	1	1	1
Management	347	387	391	392	419
Installation, operations, and maintenance	703	705	777	828	832
Test and evaluation	367	401	406	424	434
Planning	162	171	176	183	178
Technical assistance and consulting	191	182	184	206	188
Production	2	2	3	3	5
Regulatory enforcement of licensing	175	184	199	207	207
Construction	384	367	399	434	422
Clinical practice, counseling, and ancillary medical service	1	1	2	5	7
Standards and specifications	94	97	115	117	111

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

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Agency and primary work activity	1989	1990	1991	1992	1993
Department of Transportation (continued):					
Scientific and technical information	5	8	9	8	11
Research contract and grant administration	9	6	6	8	7
Teaching and training	44	52	57	53	50
Other - not elsewhere classified	397	493	571	617	643
Activity unknown	411	450	524	617	650
Department of the Treasury:					
Total	2,516	2,664	3,103	3,320	3,461
Development	35	48	65	71	81
Research	77	67	72	73	69
Design	24	27	39	37	37
Data collection, processing, and analysis	201	217	264	280	263
Natural resources operations	-	-	-	-	-
Management	9	7	6	7	5
Installation, operations, and maintenance	22	21	22	19	18
Test and evaluation	76	77	84	60	54
Planning	96	85	87	95	100
Technical assistance and consulting	7	8	12	12	12
Production	6	8	9	10	8
Regulatory enforcement of licensing	287	285	298	298	291
Construction	-	-	2	2	3
Clinical practice, counseling, and ancillary medical service	-	-	-	-	-
Standards and specifications	9	9	9	14	14
Scientific and technical information	35	18	18	17	22
Research contract and grant administration	1	-	5	6	8
Teaching and training	-	-	-	-	-
Other - not elsewhere classified	98	112	139	155	144
Activity unknown	1,533	1,675	1,972	2,164	2,332
Department of Veterans Affairs:					
Total	4,401	4,614	4,902	5,109	5,355
Development	2	2	2	2	1
Research	753	725	734	696	676
Design	39	35	29	29	25
Data collection, processing, and analysis	5	7	8	9	13
Natural resources operations	1	1	1	-	-
Management	115	109	117	134	138
Installation, operations, and maintenance	448	459	461	453	474
Test and evaluation	16	15	14	16	15
Planning	40	51	53	56	57
Technical assistance and consulting	7	8	9	10	6

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

Agency and primary work activity	1989	1990	1991	1992	1993
Department of Veterans Affairs (continued):					
Production	2	2	7	4	3
Regulatory enforcement of licensing	5	6	5	7	4
Construction	60	54	59	69	81
Clinical practice, counseling, and ancillary medical service	2,358	2,546	2,769	2,919	3,090
Standards and specifications	5	5	5	4	4
Scientific and technical information	7	7	7	10	13
Research contract and grant administration	4	3	3	4	4
Teaching and training	14	16	16	14	17
Other - not elsewhere classified	18	18	18	31	47
Activity unknown	502	545	585	642	687
Environmental Protection Agency:					
Total	6,503	7,223	7,810	7,887	8,061
Development	181	203	223	224	211
Research	438	427	476	437	440
Design	7	7	5	3	3
Data collection, processing, and analysis	1,277	1,272	1,350	1,336	1,345
Natural resources operations	3	1	1	1	1
Management	76	89	88	88	87
Installation, operations, and maintenance	6	5	5	7	7
Test and evaluation	86	111	124	131	128
Planning	208	216	216	220	231
Technical assistance and consulting	670	726	784	776	805
Production	-	-	1	1	1
Regulatory enforcement of licensing	1,325	1,524	1,702	1,702	1,689
Construction	55	44	39	34	33
Clinical practice, counseling, and ancillary medical service	-	1	1	-	-
Standards and specifications	199	204	234	230	211
Scientific and technical information	279	405	431	495	624
Research contract and grant administration	108	132	127	126	118
Teaching and training	-	-	-	1	2
Other - not elsewhere classified	175	203	197	206	202
Activity unknown	1,410	1,653	1,806	1,869	1,923
General Services Administration:					
Total	741	827	924	922	978
Development	15	11	10	10	6
Research	10	10	10	7	7
Design	114	134	173	171	186
Data collection, processing, and analysis	-	-	-	-	-
Natural resources operations	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

Agency and primary work activity	1989	1990	1991	1992	1993
General Services Administration (continued):					
Management	18	22	19	18	19
Installation, operations, and maintenance	18	17	18	17	14
Test and evaluation	29	29	31	20	26
Planning	7	7	6	5	5
Technical assistance and consulting	8	6	8	7	5
Production	-	-	-	-	-
Regulatory enforcement of licensing	11	12	14	15	12
Construction	190	226	222	205	205
Clinical practice, counseling, and ancillary medical service	-	-	-	-	-
Standards and specifications	10	12	11	26	20
Scientific and technical information	1	1	1	1	1
Research contract and grant administration	-	-	-	-	-
Teaching and training	-	-	-	-	-
Other - not elsewhere classified	74	77	97	102	112
Activity unknown	236	263	304	318	360
National Aeronautics & Space Administration:					
Total	11,920	12,277	12,802	12,665	12,424
Development	5,133	5,267	5,464	5,456	5,378
Research	2,306	2,362	2,413	2,370	2,324
Design	568	588	687	661	656
Data collection, processing, and analysis	397	388	376	372	357
Natural resources operations	-	-	-	-	-
Management	1,185	1,247	1,289	1,356	1,338
Installation, operations, and maintenance	522	518	569	552	513
Test and evaluation	681	701	735	711	685
Planning	212	198	187	173	167
Technical assistance and consulting	95	86	74	66	60
Production	74	75	84	77	75
Regulatory enforcement of licensing	5	10	14	14	16
Construction	53	60	58	60	53
Clinical practice, counseling, and ancillary medical service	2	2	5	2	2
Standards and specifications	61	65	68	60	60
Scientific and technical information	25	16	17	16	22
Research contract and grant administration	10	10	9	9	8
Teaching and training	1	2	2	2	1
Other - not elsewhere classified	500	583	639	586	592
Activity unknown	90	99	112	122	117

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

Agency and primary work activity	1989	1990	1991	1992	1993
National Science Foundation:					
Total	377	389	362	364	328
Development	1	1	1	1	1
Research	-	-	-	-	-
Design	-	-	-	-	-
Data collection, processing, and analysis	39	38	36	34	28
Natural resources operations	-	-	-	-	-
Management	10	9	11	10	11
Installation, operations, and maintenance	5	5	3	4	3
Test and evaluation	-	-	-	-	-
Planning	17	14	14	14	15
Technical assistance and consulting	1	1	1	2	2
Production	-	-	-	-	-
Regulatory enforcement of licensing	-	-	1	2	3
Construction	1	-	-	-	-
Clinical practice, counseling, and ancillary medical service	-	-	-	-	-
Standards and specifications	-	-	-	-	-
Scientific and technical information	-	-	-	-	-
Research contract and grant administration	259	277	254	256	227
Teaching and training	-	-	-	-	-
Other - not elsewhere classified	7	7	6	4	3
Activity unknown	37	37	35	37	35
Nuclear Regulatory Commission:					
Total	1,457	1,466	1,590	1,620	1,593
Development	-	-	-	-	-
Research	1	1	1	1	-
Design	-	-	-	-	-
Data collection, processing, and analysis	-	-	-	-	-
Natural resources operations	-	-	-	-	-
Management	-	-	-	-	-
Installation, operations, and maintenance	-	-	-	-	-
Test and evaluation	1	2	1	-	1
Planning	-	-	-	-	-
Technical assistance and consulting	-	-	-	-	-
Production	-	-	-	-	-
Regulatory enforcement of licensing	1,409	1,424	1,547	1,574	1,547
Construction	-	-	-	-	-
Clinical practice, counseling, and ancillary medical service	-	-	-	-	-
Standards and specifications	-	-	-	-	1

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

Agency and primary work activity	1989	1990	1991	1992	1993
Nuclear Regulatory Commission (continued):					
Research contract and grant administration	-	-	-	-	-
Teaching and training	-	-	-	-	-
Other - not elsewhere classified	1	1	1	1	1
Activity unknown	45	38	40	44	42
US International Development Cooperation Agency:					
Total	585	556	520	480	470
Development	-	-	-	-	-
Research	2	2	1	1	1
Design	-	-	-	-	-
Data collection, processing, and analysis	-	-	-	-	-
Natural resources operations	-	-	-	-	-
Management	1	1	-	-	-
Installation, operations, and maintenance	-	-	-	-	-
Test and evaluation	1	-	-	-	-
Planning	2	1	-	-	-
Technical assistance and consulting	217	292	296	263	262
Production	-	-	-	-	-
Regulatory enforcement of licensing	-	-	-	-	-
Construction	-	-	-	-	-
Clinical practice, counseling, and ancillary medical service	-	-	-	-	-
Standards and specifications	-	-	-	-	-
Scientific and technical information	-	-	-	-	-
Research contract and grant administration	-	-	-	-	-
Teaching and training	-	-	-	-	-
Other - not elsewhere classified	160	67	60	49	37
Activity unknown	202	193	163	167	170
All other agencies:					
Total	3,164	3,239	3,481	3,582	3,322
Development	68	60	59	61	52
Research	374	382	366	383	383
Design	41	36	49	60	62
Data collection, processing, and analysis	200	204	215	209	199
Natural resources operations	3	2	2	2	2
Management	52	53	51	46	48
Installation, operations, and maintenance	37	54	48	51	46
Test and evaluation	51	47	48	52	47
Planning	131	125	112	122	117
Technical assistance and consulting	85	85	79	77	65

See explanatory information, if any, and SOURCE at end of table.

Table B-7. Federal scientists and engineers, by agency and primary work activity: 1989-93

Agency and primary work activity	1989	1990	1991	1992	1993
All other agencies (continued):					
Production	2	1	1	1	1
Regulatory enforcement of licensing	274	285	300	306	297
Construction	31	33	39	44	44
Clinical practice, counseling, and ancillary medical service	4	4	4	3	4
Standards and specifications	59	62	65	62	59
Scientific and technical information	11	12	19	19	17
Research contract and grant administration	5	8	10	11	11
Teaching and training	5	6	5	5	6
Other - not elsewhere classified	402	423	427	446	263
Activity unknown	1,329	1,357	1,582	1,622	1,599

KEY: "-" = Zero

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-8. Federal scientists and engineers, by major occupational group and race ethnicity: 1989-93

Page 1 of 4

Major occupational group and race/ethnicity	1989	1990	1991	1992	1993
Total, All Occupations					
All races	185,623	189,049	194,726	198,853	196,908
White	159,401	161,431	165,564	168,316	166,084
Black	8,409	8,712	9,216	9,579	9,682
Asian	9,866	10,565	11,192	11,764	11,930
Hispanic	5,331	5,687	6,071	6,354	6,394
Native American	929	1,002	1,106	1,198	1,249
All other	1,517	1,576	1,523	1,516	1,555
No report	170	76	54	126	14
All scientists:					
All races	89,530	92,467	96,919	101,006	101,348
White	78,454	80,642	84,237	87,340	87,492
Black	5,040	5,253	5,569	5,900	6,036
Asian	3,124	3,449	3,707	4,051	4,143
Hispanic	2,012	2,166	2,370	2,537	2,580
Native American	528	581	662	712	748
All other	270	327	327	347	343
No report	102	49	47	119	6
Computer and mathematical sciences:					
All races	25,737	26,725	28,210	29,371	29,691
White	21,860	22,578	23,655	24,440	24,564
Black	2,047	2,159	2,346	2,503	2,606
Asian	998	1,155	1,295	1,441	1,528
Hispanic	557	590	656	716	722
Native American	103	110	130	144	149
All other	107	124	122	121	120
No report	65	9	6	6	2
Life sciences:					
All races	23,082	24,009	25,280	26,765	26,920
White	20,667	21,438	22,547	23,850	23,985
Black	942	958	985	1,018	1,035
Asian	660	726	803	876	876
Hispanic	507	546	595	634	631
Native American	243	266	271	294	307
All other	57	70	71	85	85
No report	6	5	8	8	1

See explanatory information, if any, and SOURCE at end of table.

Table B-8. Federal scientists and engineers, by major occupational group and race ethnicity: 1989-93

Page 2 of 4

Major occupational group and race/ethnicity	1989	1990	1991	1992	1993
Physical sciences:					
All races	23,204	23,725	24,140	24,427	24,118
White	20,628	20,968	21,327	21,513	21,216
Black	877	885	884	892	883
Asian	1,135	1,238	1,242	1,313	1,318
Hispanic	430	468	507	524	528
Native American	49	60	74	70	76
All other	79	100	100	102	97
No report	6	6	6	13	-
Social sciences:					
All races	17,507	18,008	19,289	20,443	20,619
White	15,299	15,658	16,708	17,537	17,727
Black	1,174	1,251	1,354	1,487	1,512
Asian	331	330	367	421	421
Hispanic	518	562	612	663	699
Native American	133	145	187	204	216
All other	27	33	34	39	41
No report	25	29	27	92	3
All engineers:					
All races	96,093	96,582	97,807	97,847	95,560
White	80,947	80,789	81,327	80,976	78,592
Black	3,369	3,459	3,647	3,679	3,646
Asian	6,742	7,116	7,485	7,713	7,787
Hispanic	3,319	3,521	3,701	3,817	3,814
Native American	401	421	444	486	501
All other	1,247	1,249	1,196	1,169	1,212
No report	68	27	7	7	8
Aerospace:					
All races	8,433	8,624	8,777	8,584	8,330
White	7,537	7,664	7,778	7,577	7,294
Black	234	241	259	260	264
Asian	394	426	441	439	453
Hispanic	250	271	273	276	288
Native American	17	22	26	32	31
All other	-	-	-	-	-
No report	1	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-8. Federal scientists and engineers, by major occupational group and race/ethnicity: 1989-93

Page 3 of 4

Major occupational group and race/ethnicity	1989	1990	1991	1992	1993
Chemical:					
All races	1,503	1,413	1,344	1,311	1,245
White	1,247	1,161	1,098	1,071	1,008
Black	47	44	50	47	45
Asian	140	146	143	137	136
Hispanic	67	58	47	50	49
Native American	2	4	5	6	6
All other	-	-	-	-	1
No report	-	-	1	-	-
Civil:					
All races	13,945	13,621	13,357	13,231	12,874
White	11,922	11,639	11,386	11,239	10,882
Black	370	360	375	379	369
Asian	790	775	776	781	781
Hispanic	537	535	534	539	536
Native American	113	110	106	114	122
All other	201	195	180	176	183
No report	12	7	-	3	1
Electrical, electronics, and computer:					
All races	31,121	31,899	32,753	32,955	32,374
White	25,256	25,609	26,045	26,059	25,413
Black	1,317	1,364	1,435	1,441	1,437
Asian	2,850	3,155	3,386	3,521	3,582
Hispanic	1,200	1,317	1,434	1,474	1,469
Native American	95	96	113	128	135
All other	364	353	339	330	334
No report	39	5	1	2	4
Industrial:					
All races	3,463	3,419	3,173	3,016	2,725
White	2,928	2,869	2,649	2,497	2,236
Black	158	156	166	162	157
Asian	191	190	175	184	174
Hispanic	146	158	143	134	120
Native American	17	21	17	19	18
All other	22	25	22	20	20
No report	1	-	1	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-8. Federal scientists and engineers, by major occupational group and race/ethnicity: 1989-93

Page 4 of 4

Major occupational group and race/ethnicity	1989	1990	1991	1992	1993
Mechanical:					
All races	12,186	11,787	11,763	11,532	11,159
White	10,165	9,810	9,757	9,535	9,197
Black	402	392	403	388	360
Asian	1,018	1,010	1,014	1,019	1,009
Hispanic	370	364	380	387	378
Native American	51	45	48	44	45
All other	177	162	161	158	168
No report	3	4	-	1	2
Other engineering:					
All races	25,442	25,819	26,640	27,218	26,853
White	21,892	22,037	22,614	22,998	22,562
Black	841	902	959	1,002	1,014
Asian	1,359	1,414	1,550	1,632	1,652
Hispanic	749	818	890	957	974
Native American	106	123	129	143	144
All other	483	514	494	485	506
No report	12	11	4	1	1

KEY: "-" = Zero

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-9. Federal scientists and engineers, by geographical division and State: 1989-93

Page 1 of 2

Division and State	1989	1990	1991	1992	1993
All States	185,623	189,049	194,726	198,853	196,908
New England	7,182	7,310	7,368	7,512	7,491
Connecticut	1,262	1,310	1,317	1,350	1,305
Maine	936	915	889	875	816
Massachusetts	3,144	3,179	3,216	3,266	3,311
New Hampshire	432	423	429	437	441
Rhode Island	1,297	1,372	1,398	1,456	1,475
Vermont	111	111	119	128	143
Middle Atlantic	15,860	15,954	15,999	16,254	16,018
New Jersey	6,429	6,399	6,379	6,474	6,347
New York	3,368	3,453	3,515	3,634	3,585
Pennsylvania	6,063	6,102	6,105	6,146	6,086
East North Central	15,940	16,085	16,835	17,043	16,552
Illinois	3,580	3,610	3,788	3,896	3,869
Indiana	2,490	2,530	2,653	2,688	2,593
Michigan	1,956	1,951	2,202	2,248	2,188
Ohio	7,223	7,290	7,450	7,419	7,105
Wisconsin	691	704	742	792	797
West North Central	7,586	7,731	7,867	8,043	8,072
Iowa	493	489	514	538	540
Kansas	1,009	1,026	1,071	1,139	1,162
Minnesota	1,112	1,121	1,143	1,163	1,180
Missouri	2,961	3,016	3,032	3,064	3,034
Nebraska	1,136	1,186	1,177	1,186	1,191
North Dakota	467	484	497	491	483
South Dakota	408	409	433	462	482
South Atlantic	65,431	67,536	70,614	72,016	70,947
Delaware	72	65	69	70	72
District of Columbia	16,055	16,747	17,748	18,057	17,487
Florida	5,990	6,126	6,232	6,260	6,247
Georgia	4,390	4,443	4,624	4,738	4,760
Maryland	20,585	21,200	22,295	22,651	22,375
North Carolina	2,108	2,193	2,355	2,449	2,449
South Carolina	1,869	1,855	1,863	1,871	1,790
Virginia	13,572	14,113	14,534	14,990	14,824
West Virginia	790	794	894	930	943

See explanatory information, if any, and SOURCE at end of table.

Table B-9. Federal scientists and engineers, by geographical division and State: 1989-93

Page 2 of 2

Division and State	1989	1990	1991	1992	1993
East South Central	10,673	10,814	11,135	11,238	11,206
Alabama	5,961	6,074	6,376	6,333	6,319
Kentucky	1,148	1,084	1,081	1,107	1,134
Mississippi	2,412	2,482	2,429	2,503	2,488
Tennessee	1,152	1,174	1,249	1,295	1,265
West South Central	12,457	12,562	12,673	13,163	13,375
Arkansas	788	789	782	809	791
Louisiana	1,467	1,487	1,520	1,594	1,618
Oklahoma	2,478	2,460	2,458	2,526	2,636
Texas	7,724	7,826	7,913	8,234	8,330
Mountain	15,132	15,411	16,020	16,836	17,067
Arizona	1,841	1,877	1,912	2,007	1,992
Colorado	5,029	5,238	5,466	5,736	5,918
Idaho	933	980	1,115	1,212	1,211
Montana	1,022	1,054	1,093	1,152	1,157
Nevada	879	893	955	1,047	1,070
New Mexico	2,803	2,736	2,788	2,815	2,813
Utah	1,993	1,989	2,028	2,148	2,175
Wyoming	632	644	663	719	731
Pacific	30,056	30,642	31,395	31,955	31,420
Alaska	1,235	1,252	1,293	1,408	1,412
California	19,366	19,636	20,002	20,076	19,707
Hawaii	2,112	2,147	2,088	2,073	2,076
Oregon	2,379	2,523	2,669	2,796	2,752
Washington	4,964	5,084	5,343	5,602	5,473
Other or unknown	5,306	5,004	4,820	4,793	4,760

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-10. Federal scientists and engineers, by major occupational group and age: 1989-93

Page 1 of 4

Major occupational group and age	1989	1990	1991	1992	1993
Total, All Occupations					
All ages	185,623	189,049	194,726	198,853	196,908
Under 35 years	62,861	63,507	64,854	63,792	59,474
35-39 years	27,990	28,171	29,056	29,919	30,440
40-49 years	53,868	55,492	57,524	59,272	59,697
50-54 years	19,935	20,626	21,372	22,394	23,401
55-56 years	5,730	5,724	6,141	6,609	6,750
57-59 years	6,852	6,900	6,909	7,218	7,367
60-61 years	3,050	3,078	3,238	3,554	3,534
62 years and over	5,335	5,551	5,632	6,091	6,240
No report	2	-	-	4	5
All scientists:					
All ages	89,530	92,467	96,919	101,006	101,348
Under 35 years	22,440	22,913	23,848	24,368	22,868
35-39 years	16,886	16,937	17,295	17,420	17,034
40-49 years	31,002	32,570	34,505	36,124	36,772
50-54 years	9,702	10,261	11,051	12,007	13,067
55-56 years	2,664	2,747	2,950	3,217	3,409
57-59 years	3,187	3,227	3,262	3,474	3,678
60-61 years	1,395	1,417	1,523	1,684	1,655
62 years and over	2,252	2,395	2,485	2,708	2,862
No report	2	-	-	4	3
Computer and mathematical sciences:					
All ages	25,737	26,725	28,210	29,371	29,691
Under 35 years	6,437	6,594	6,905	7,007	6,687
35-39 years	4,464	4,399	4,493	4,498	4,486
40-49 years	9,647	10,211	10,826	11,188	11,327
50-54 years	3,008	3,195	3,483	3,841	4,204
55-56 years	724	748	865	965	1,030
57-59 years	770	813	825	940	979
60-61 years	309	342	343	382	420
62 years and over	376	423	470	550	558
No report	2	-	-	-	-
Life sciences:					
All ages	23,082	24,009	25,280	26,765	26,920
Under 35 years	6,245	6,305	6,502	6,695	6,229
35-39 years	5,198	5,296	5,517	5,554	5,341
40-49 years	7,590	8,233	8,848	9,713	10,129
50-54 years	2,072	2,166	2,348	2,570	2,851

See explanatory information, if any, and SOURCE at end of table.

Table B-10. Federal scientists and engineers, by major occupational group and age: 1989-93

Page 2 of 4

Major occupational group and age	1989	1990	1991	1992	1993
Life sciences (continued):					
55-56 years	591	606	614	671	722
57-59 years	670	674	693	737	778
60-61 years	268	266	290	316	327
62 years and over	448	463	468	507	542
No report	-	-	-	2	1
Physical sciences:					
All ages	23,204	23,725	24,140	24,427	24,118
Under 35 years	5,137	5,304	5,324	5,146	4,798
35-39 years	3,831	3,911	3,973	4,016	3,876
40-49 years	7,584	7,677	7,787	7,849	7,818
50-54 years	3,040	3,157	3,305	3,433	3,540
55-56 years	879	907	949	1,026	1,067
57-59 years	1,153	1,148	1,116	1,147	1,211
60-61 years	559	549	592	636	575
62 years and over	1,021	1,072	1,094	1,174	1,233
No report	-	-	-	-	-
Social sciences:					
All ages	17,507	18,008	19,289	20,443	20,619
Under 35 years	4,621	4,710	5,117	5,520	5,154
35-39 years	3,393	3,331	3,312	3,352	3,331
40-49 years	6,181	6,449	7,044	7,374	7,498
50-54 years	1,582	1,743	1,915	2,163	2,472
55-56 years	470	486	522	555	590
57-59 years	594	592	628	650	710
60-61 years	259	260	298	350	333
62 years and over	407	437	453	477	529
No report	-	-	-	2	2
All engineers:					
All ages	96,093	96,582	97,807	97,847	95,560
Under 35 years	40,421	40,594	41,006	39,424	36,606
35-39 years	11,104	11,234	11,761	12,499	13,406
40-49 years	22,866	22,922	23,019	23,148	22,925
50-54 years	10,233	10,365	10,321	10,387	10,334
55-56 years	3,066	2,977	3,191	3,392	3,341
57-59 years	3,665	3,673	3,647	3,744	3,689
60-61 years	1,655	1,661	1,715	1,870	1,879
62 years and over	3,083	3,156	3,147	3,383	3,378
No report	-	-	-	-	2

See explanatory information, if any, and SOURCE at end of table.

Table B-10. Federal scientists and engineers, by major occupational group and age: 1989-93

Page 3 of 4

Major occupational group and age	1989	1990	1991	1992	1993
Aerospace:					
All ages	8,433	8,624	8,777	8,584	8,330
Under 35 years	3,764	3,953	4,055	3,823	3,555
35-39 years	629	705	778	893	1,034
40-49 years	1,721	1,626	1,583	1,463	1,409
50-54 years	1,173	1,157	1,117	1,083	985
55-56 years	346	338	373	373	376
57-59 years	381	403	412	428	431
60-61 years	146	149	168	212	223
62 years and over	273	293	291	309	317
No report	-	-	-	-	-
Chemical:					
All ages	1,503	1,413	1,344	1,311	1,245
Under 35 years	793	727	663	579	498
35-39 years	131	138	150	181	214
40-49 years	264	247	242	247	242
50-54 years	124	114	112	120	119
55-56 years	46	45	34	37	35
57-59 years	36	41	55	60	50
60-61 years	32	27	15	18	27
62 years and over	77	74	73	69	60
No report	-	-	-	-	-
Civil:					
All ages	13,945	13,621	13,357	13,231	12,874
Under 35 years	4,525	4,238	3,963	3,717	3,295
35-39 years	2,246	2,230	2,255	2,243	2,222
40-49 years	3,922	3,902	3,911	3,991	4,030
50-54 years	1,787	1,809	1,748	1,696	1,656
55-56 years	461	462	513	538	522
57-59 years	448	414	464	505	564
60-61 years	215	206	158	185	213
62 years and over	341	360	345	356	370
No report	-	-	-	-	2
Electrical, electronics, and computer:					
All ages	31,121	31,899	32,753	32,955	32,374
Under 35 years	14,911	15,492	16,057	15,590	14,707
35-39 years	3,375	3,413	3,585	3,879	4,250
40-49 years	6,893	6,971	6,950	7,013	6,892
50-54 years	2,730	2,816	2,867	2,983	3,083

See explanatory information, if any, and SOURCE at end of table.

Table B-10. Federal scientists and engineers, by major occupational group and age: 1989-93

Page 4 of 4

Major occupational group and age	1989	1990	1991	1992	1993
Electrical, electronics, and computer (continued):					
55-56 years	879	799	854	935	921
57-59 years	1,080	1,125	1,065	1,057	1,012
60-61 years	471	458	527	567	538
62 years and over	782	825	848	931	971
No report	-	-	-	-	-
Industrial:					
All ages	3,463	3,419	3,173	3,016	2,725
Under 35 years	1,607	1,584	1,458	1,335	1,136
35-39 years	364	344	316	333	368
40-49 years	739	767	730	696	645
50-54 years	294	266	241	245	223
55-56 years	100	97	86	91	83
57-59 years	132	131	123	113	93
60-61 years	57	58	67	59	64
62 years and over	170	172	152	144	113
No report	-	-	-	-	-
Mechanical:					
All ages	12,186	11,787	11,763	11,532	11,159
Under 35 years	6,224	5,912	5,794	5,416	4,986
35-39 years	1,267	1,260	1,346	1,453	1,538
40-49 years	2,421	2,380	2,392	2,382	2,375
50-54 years	972	972	979	971	984
55-56 years	277	281	299	330	318
57-59 years	391	365	355	344	350
60-61 years	185	185	181	195	187
62 years and over	449	432	417	441	421
No report	-	-	-	-	-
Other engineering:					
All ages	25,442	25,819	26,640	27,218	26,853
Under 35 years	8,597	8,688	9,016	8,964	8,429
35-39 years	3,092	3,144	3,331	3,517	3,780
40-49 years	6,906	7,029	7,211	7,356	7,332
50-54 years	3,153	3,231	3,257	3,289	3,284
55-56 years	957	955	1,032	1,088	1,086
57-59 years	1,197	1,194	1,173	1,237	1,189
60-61 years	549	578	599	634	627
62 years and over	991	1,000	1,021	1,133	1,126
No report	-	-	-	-	-

KEY: "-" = Zero

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-11a. Federal scientists and engineers, by primary work activity and age: 1989-93

Page 1 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Total, All Activities					
All ages	185,623	189,049	194,726	198,853	196,908
Under 35 years	62,861	63,507	64,854	63,792	59,474
35-39 years	27,990	28,171	29,056	29,919	30,440
40-49 years	53,868	55,492	57,524	59,272	59,697
50-54 years	19,935	20,626	21,372	22,394	23,401
55-56 years	5,730	5,724	6,141	6,609	6,750
57-59 years	6,852	6,900	6,909	7,218	7,367
60-61 years	3,050	3,078	3,238	3,554	3,534
62 years and over	5,335	5,551	5,632	6,091	6,240
No report	2	-	-	4	5
Development:					
All ages	28,791	29,190	27,502	30,299	29,529
Under 35 years	12,257	12,631	12,299	12,718	11,859
35-39 years	3,154	3,211	3,092	3,715	4,021
40-49 years	6,925	6,774	5,902	6,636	6,506
50-54 years	3,177	3,205	3,014	3,409	3,402
55-56 years	922	917	912	1,066	1,056
57-59 years	1,095	1,135	1,010	1,191	1,143
60-61 years	464	480	460	583	580
62 years and over	795	837	813	981	962
No report	2	-	-	-	-
Research:					
All ages	21,242	21,381	21,768	22,246	21,670
Under 35 years	5,211	5,170	5,322	5,228	4,637
35-39 years	3,398	3,472	3,573	3,667	3,551
40-49 years	6,620	6,576	6,650	6,858	6,753
50-54 years	2,771	2,851	2,858	2,951	3,043
55-56 years	807	835	854	917	971
57-59 years	1,067	1,060	1,031	1,037	1,103
60-61 years	471	469	521	551	528
62 years and over	897	948	959	1,037	1,084
No report	-	-	-	-	-
Design:					
All ages	15,171	14,781	14,521	14,681	14,209
Under 35 years	6,277	5,965	5,716	5,523	5,016
35-39 years	2,045	2,006	2,066	2,072	2,162
40-49 years	3,685	3,684	3,621	3,843	3,809
50-54 years	1,531	1,518	1,468	1,489	1,461

See explanatory information, if any, and SOURCE at end of table.

Table B-11a. Federal scientists and engineers, by primary work activity and age: 1989-93

Page 2 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Design (continued):					
55-56 years	434	419	490	487	460
57-59 years	509	477	486	541	583
60-61 years	232	246	229	243	249
62 years and over	458	466	445	483	469
No report	-	-	-	-	-
Data collection, processing, and analysis:					
All ages	14,236	14,325	14,795	14,951	14,675
Under 35 years	4,902	4,887	5,155	5,101	4,768
35-39 years	2,562	2,505	2,497	2,411	2,326
40-49 years	4,211	4,327	4,433	4,546	4,567
50-54 years	1,329	1,369	1,477	1,551	1,627
55-56 years	359	353	367	378	410
57-59 years	411	421	402	447	442
60-61 years	189	175	178	201	202
62 years and over	273	288	286	316	333
No report	-	-	-	-	-
Natural resources operations:					
All ages	11,488	11,904	12,455	13,235	13,461
Under 35 years	3,842	3,707	3,648	3,736	3,498
35-39 years	2,885	2,944	3,035	3,025	2,944
40-49 years	3,424	3,842	4,273	4,794	5,156
50-54 years	784	840	911	1,011	1,132
55-56 years	192	222	223	245	257
57-59 years	200	199	211	233	256
60-61 years	73	66	75	100	99
62 years and over	88	84	79	91	119
No report	-	-	-	-	-
Management:					
All ages	8,407	8,625	8,505	8,682	8,488
Under 35 years	1,076	1,172	1,162	1,194	1,113
35-39 years	906	921	930	959	976
40-49 years	3,172	3,191	3,169	3,128	2,998
50-54 years	1,681	1,694	1,678	1,655	1,634
55-56 years	475	510	487	554	536
57-59 years	525	544	524	579	574
60-61 years	216	224	214	257	267
62 years and over	356	369	341	356	390
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-11a. Federal scientists and engineers, by primary work activity and age: 1989-93

Page 3 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Installation, operations, and maintenance:					
All ages	11,480	11,429	11,608	11,623	11,353
Under 35 years	5,283	5,248	5,286	5,089	4,771
35-39 years	1,395	1,400	1,447	1,550	1,673
40-49 years	2,625	2,641	2,686	2,692	2,683
50-54 years	955	993	1,017	1,044	1,045
55-56 years	328	275	280	321	327
57-59 years	388	387	402	383	338
60-61 years	190	168	178	200	200
62 years and over	316	317	312	344	315
No report	-	-	-	-	1
Test and evaluation:					
All ages	9,712	10,095	10,160	10,409	10,495
Under 35 years	4,629	4,917	4,986	4,916	4,669
35-39 years	1,065	1,092	1,189	1,257	1,426
40-49 years	2,196	2,252	2,182	2,272	2,310
50-54 years	872	881	875	927	1,025
55-56 years	299	273	236	274	298
57-59 years	299	323	323	356	326
60-61 years	139	134	142	150	173
62 years and over	213	223	227	257	268
No report	-	-	-	-	-
Planning:					
All ages	6,374	6,238	6,223	6,271	6,169
Under 35 years	1,558	1,502	1,481	1,453	1,366
35-39 years	1,121	1,027	1,044	1,041	1,031
40-49 years	2,210	2,216	2,218	2,233	2,176
50-54 years	799	824	802	824	847
55-56 years	216	202	207	247	239
57-59 years	216	217	231	221	247
60-61 years	105	92	84	99	100
62 years and over	149	158	156	153	163
No report	-	-	-	-	-
Technical assistance and consulting:					
All ages	4,118	4,204	4,338	4,526	4,556
Under 35 years	827	889	963	1,047	998
35-39 years	664	646	642	634	631
40-49 years	1,434	1,479	1,530	1,524	1,584
50-54 years	531	563	566	618	650

See explanatory information, if any, and SOURCE at end of table.

Table B-11a. Federal scientists and engineers, by primary work activity and age: 1989-93

Page 4 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Technical assistance and consulting (continued):					
55-56 years	154	137	166	198	183
57-59 years	208	189	187	193	205
60-61 years	111	105	103	104	101
62 years and over	189	196	181	208	204
No report	-	-	-	-	-
Production:					
All ages	5,708	5,703	5,836	5,884	5,659
Under 35 years	2,551	2,520	2,519	2,368	2,187
35-39 years	619	615	628	710	766
40-49 years	1,162	1,190	1,268	1,322	1,336
50-54 years	478	466	479	507	486
55-56 years	158	159	169	184	160
57-59 years	283	264	255	241	214
60-61 years	143	153	161	176	149
62 years and over	314	336	357	376	361
No report	-	-	-	-	-
Regulatory enforcement of licensing:					
All ages	4,951	5,332	5,867	6,026	5,910
Under 35 years	1,546	1,704	1,925	1,862	1,686
35-39 years	836	850	955	998	970
40-49 years	1,415	1,561	1,683	1,774	1,766
50-54 years	457	505	533	580	637
55-56 years	153	141	182	194	180
57-59 years	193	208	198	209	241
60-61 years	109	104	119	113	113
62 years and over	242	259	272	296	317
No report	-	-	-	-	-
Construction:					
All ages	5,170	4,940	4,746	4,698	4,682
Under 35 years	1,694	1,483	1,403	1,331	1,270
35-39 years	781	762	719	752	778
40-49 years	1,494	1,517	1,459	1,467	1,437
50-54 years	584	558	563	557	567
55-56 years	166	185	176	169	179
57-59 years	194	188	188	181	190
60-61 years	78	8	74	91	96
62 years and over	179	166	164	150	165
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-11a. Federal scientists and engineers, by primary work activity and age: 1989-93

Page 5 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Clinical practice, counseling, and ancillary medical service:					
All ages	3,430	3,625	3,981	4,201	4,440
Under 35 years	515	537	610	649	657
35-39 years	615	652	647	645	666
40-49 years	1,453	1,538	1,701	1,764	1,843
50-54 years	355	396	473	555	657
55-56 years	101	125	130	136	147
57-59 years	177	159	164	175	195
60-61 years	79	86	109	116	90
62 years and over	135	132	147	161	184
No report	-	-	-	-	1
Standards and specifications:					
All ages	1,674	1,692	1,620	1,642	1,506
Under 35 years	497	483	460	453	399
35-39 years	206	212	202	203	184
40-49 years	471	487	492	497	439
50-54 years	204	220	198	213	205
55-56 years	70	59	59	68	70
57-59 years	91	88	80	71	70
60-61 years	36	44	37	39	43
62 years and over	99	99	92	98	96
No report	-	-	-	-	-
Scientific and technical information:					
All ages	1,746	1,905	1,957	2,057	2,146
Under 35 years	584	644	683	708	718
35-39 years	274	303	298	338	356
40-49 years	516	561	555	577	618
50-54 years	168	185	196	194	223
55-56 years	45	54	66	67	57
57-59 years	74	72	65	77	75
60-61 years	33	29	39	34	34
62 years and over	52	57	55	62	65
No report	-	-	-	-	-
Research contract and grant administration:					
All ages	944	1,042	1,047	1,070	1,039
Under 35 years	139	162	157	175	172
35-39 years	107	120	120	120	116
40-49 years	372	370	367	360	339
50-54 years	156	189	197	213	207

See explanatory information, if any, and SOURCE at end of table.

Table B-11a. Federal scientists and engineers, by primary work activity and age: 1989-93

Primary work activity and age	1989	1990	1991	1992	1993
Research contract and grant administration : (continued)					
55-56 years	46	56	49	50	52
57-59 years	42	53	64	62	61
60-61 years	24	31	26	22	27
62 years and over	58	61	67	68	65
No report	-	-	-	-	-
Teaching and training:					
All ages	376	406	442	431	471
Under 35 years	67	62	80	69	82
35-39 years	50	64	58	60	60
40-49 years	146	159	176	173	177
50-54 years	48	54	55	63	73
55-56 years	12	12	12	15	21
57-59 years	26	17	18	14	17
60-61 years	8	16	21	12	12
62 years and over	19	22	22	25	29
No report	-	-	-	-	-
Other - not elsewhere classified:					
All ages	8,329	8,867	8,682	8,740	8,244
Under 35 years	4,487	4,689	4,298	3,995	3,385
35-39 years	988	1,093	1,093	1,217	1,258
40-49 years	1,701	1,851	2,033	2,155	2,164
50-54 years	536	609	621	683	755
55-56 years	175	155	193	204	225
57-59 years	190	207	198	208	196
60-61 years	82	83	77	110	109
62 years and over	170	180	169	168	151
No report	-	-	-	-	1
Activity unknown:					
All ages	22,276	23,365	28,673	27,181	28,206
Under 35 years	4,919	5,135	6,701	6,177	6,223
35-39 years	4,319	4,276	4,821	4,545	4,545
40-49 years	8,636	9,276	11,126	10,657	11,036
50-54 years	2,519	2,706	3,391	3,350	3,725
55-56 years	618	635	883	835	922
57-59 years	664	692	872	799	891
60-61 years	268	292	391	353	362
62 years and over	333	353	488	461	500
No report	-	-	-	4	2

KEY: "-" = Zero

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-11b. Female Federal scientists and engineers, by primary work activity and age: 1989-93

Page 1 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Total, All Activities					
All ages	29,328	31,733	34,787	36,854	37,431
Under 35 years	15,587	16,333	17,393	17,557	16,570
35-39 years	5,123	5,664	6,297	6,959	7,325
40-49 years	6,118	6,969	7,967	8,805	9,540
50-54 years	1,294	1,510	1,742	2,019	2,347
55-56 years	300	346	396	432	500
57-59 years	359	358	411	448	515
60-61 years	192	183	182	213	209
62 years and over	354	370	399	421	425
No report	1	-	-	-	-
Development:					
All ages	3,440	3,648	3,570	3,932	3,930
Under 35 years	2,414	2,498	2,468	2,556	2,403
35-39 years	398	440	426	547	614
40-49 years	464	526	491	589	638
50-54 years	94	105	98	139	166
55-56 years	13	24	33	31	33
57-59 years	21	19	21	28	37
60-61 years	14	12	8	15	12
62 years and over	21	24	25	27	27
No report	1	-	-	-	-
Research:					
All ages	4,230	4,409	4,660	4,885	4,773
Under 35 years	1,732	1,756	1,835	1,829	1,605
35-39 years	813	862	932	1,014	997
40-49 years	1,095	1,171	1,228	1,321	1,377
50-54 years	297	323	356	390	435
55-56 years	67	71	84	93	104
57-59 years	83	81	86	88	109
60-61 years	43	34	33	42	45
62 years and over	100	111	106	108	101
No report	-	-	-	-	-
Design:					
All ages	1,217	1,226	1,271	1,341	1,306
Under 35 years	974	954	962	973	892
35-39 years	127	137	172	197	225
40-49 years	86	99	105	128	148
50-54 years	23	24	18	22	22

See explanatory information, if any, and SOURCE at end of table.

Table B-11b. Female Federal scientists and engineers, by primary work activity and age: 1989-93

Page 2 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Design (continued):					
55-56 years	3	7	9	7	7
57-59 years	1	-	2	9	9
60-61 years	-	-	-	2	-
62 years and over	3	5	3	3	3
No report	-	-	-	-	-
Data collection, processing, and analysis:					
All ages	3,326	3,421	3,699	3,718	3,640
Under 35 years	1,688	1,671	1,796	1,744	1,611
35-39 years	603	649	692	687	679
40-49 years	710	763	849	903	939
50-54 years	165	172	197	212	238
55-56 years	37	47	39	40	40
57-59 years	47	41	48	46	55
60-61 years	27	27	25	24	20
62 years and over	49	51	53	62	58
No report	-	-	-	-	-
Natural resources operations:					
All ages	1,792	2,089	2,384	2,705	2,824
Under 35 years	1,251	1,340	1,418	1,510	1,441
35-39 years	391	529	642	749	827
40-49 years	124	188	282	395	495
50-54 years	13	16	24	28	35
55-56 years	4	6	4	5	9
57-59 years	4	7	9	9	6
60-61 years	1	2	4	7	7
62 years and over	4	1	1	2	4
No report	-	-	-	-	-
Management:					
All ages	504	604	719	832	908
Under 35 years	227	264	294	318	323
35-39 years	92	110	136	177	196
40-49 years	123	157	215	242	277
50-54 years	31	42	40	53	58
55-56 years	9	7	8	10	14
57-59 years	6	8	9	14	17
60-61 years	7	7	4	6	7
62 years and over	9	9	13	12	16
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-11b. Female Federal scientists and engineers, by primary work activity and age: 1989-93

Primary work activity and age	1989	1990	1991	1992	1993
Installation, operations, and maintenance:					
All ages	791	864	955	975	986
Under 35 years	665	713	762	734	709
35-39 years	65	77	106	141	159
40-49 years	40	56	67	78	94
50-54 years	13	9	13	12	13
55-56 years	3	5	2	3	4
57-59 years	3	3	3	6	4
60-61 years	2	-	-	-	2
62 years and over	-	1	2	1	1
No report	-	-	-	-	-
Test and evaluation:					
All ages	1,138	1,297	1,403	1,429	1,441
Under 35 years	741	849	899	896	838
35-39 years	135	153	168	170	197
40-49 years	175	194	207	224	248
50-54 years	42	57	75	75	89
55-56 years	13	12	16	25	22
57-59 years	16	18	16	16	21
60-61 years	9	4	10	11	8
62 years and over	7	10	12	12	18
No report	-	-	-	-	-
Planning:					
All ages	974	1,008	1,088	1,163	1,145
Under 35 years	500	515	541	564	500
35-39 years	207	190	223	246	267
40-49 years	204	231	241	258	274
50-54 years	31	44	48	60	71
55-56 years	7	7	15	12	8
57-59 years	14	15	12	9	12
60-61 years	3	2	3	7	5
62 years and over	8	4	5	7	8
No report	-	-	-	-	-
Technical assistance and consulting:					
All ages	685	759	827	942	1,018
Under 35 years	294	329	347	393	401
35-39 years	120	145	157	159	166
40-49 years	180	191	226	273	312
50-54 years	33	33	36	50	70

See explanatory information, if any, and SOURCE at end of table.

Table B-11b. Female Federal scientists and engineers, by primary work activity and age: 1989-93

Page 4 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Technical assistance and consulting (continued):					
55-56 years	13	11	13	13	11
57-59 years	10	16	19	21	20
60-61 years	14	11	6	9	14
62 years and over	21	23	23	24	24
No report	-	-	-	-	-
Production:					
All ages	491	504	538	516	509
Under 35 years	421	416	430	385	359
35-39 years	35	46	55	75	90
40-49 years	22	27	36	41	46
50-54 years	7	10	9	9	5
55-56 years	2	2	2	1	2
57-59 years	1	-	2	2	3
60-61 years	-	1	2	-	-
62 years and over	3	2	2	3	4
No report	-	-	-	-	-
Regulatory enforcement of licensing:					
All ages	852	1,019	1,184	1,212	1,175
Under 35 years	531	617	715	662	599
35-39 years	145	171	208	248	237
40-49 years	120	162	184	224	248
50-54 years	28	37	38	42	53
55-56 years	6	5	11	9	9
57-59 years	7	11	11	9	10
60-61 years	3	2	5	5	6
62 years and over	12	14	12	13	13
No report	-	-	-	-	-
Construction:					
All ages	349	345	367	386	394
Under 35 years	288	262	268	267	261
35-39 years	30	43	52	71	82
40-49 years	25	34	40	36	35
50-54 years	3	4	2	6	9
55-56 years	1	1	[illegible]	2	1
57-59 years	1	-	[illegible]	1	4
60-61 years	1	1	1	-	-
62 years and over	-	-	1	3	2
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-11b. Female Federal scientists and engineers, by primary work activity and age: 1989-93

Page 5 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Clinical practice, counseling, and ancillary medical service:					
All ages	1,046	1,142	1,338	1,499	1,632
Under 35 years	263	287	348	381	393
35-39 years	221	253	273	305	321
40-49 years	357	384	454	512	580
50-54 years	90	102	132	154	186
55-56 years	24	31	31	41	38
57-59 years	38	32	39	44	50
60-61 years	16	17	25	25	22
62 years and over	37	36	36	37	42
No report	-	-	-	-	-
Standards and specifications:					
All ages	206	217	228	242	228
Under 35 years	125	124	123	135	115
35-39 years	21	25	30	30	38
40-49 years	35	39	49	49	46
50-54 years	13	17	16	15	18
55-56 years	1	1	1	4	3
57-59 years	3	3	2	2	2
60-61 years	2	3	2	1	1
62 years and over	6	5	5	6	5
No report	-	-	-	-	-
Scientific and technical information:					
All ages	328	397	424	463	520
Under 35 years	179	209	225	243	261
35-39 years	55	74	69	91	101
40-49 years	63	75	88	98	122
50-54 years	12	17	14	11	16
55-56 years	1	5	8	6	5
57-59 years	7	5	8	5	7
60-61 years	4	5	4	4	3
62 years and over	7	7	8	5	5
No report	-	-	-	-	-
Research contract and grant administration:					
All ages	186	230	242	240	237
Under 35 years	53	60	53	51	51
35-39 years	23	34	34	35	37
40-49 years	66	77	98	95	90
50-54 years	21	32	31	30	32

See explanatory information, if any, and SOURCE at end of table.

Table B-11b. Female Federal scientists and engineers, by primary work activity and age: 1989-93

Page 6 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Research contract and grant administration: (continued)					
55-56 years	6	9	5	10	7
57-59 years	7	3	8	6	8
60-61 years	2	6	4	1	2
62 years and over	8	9	9	12	10
No report	-	-	-	-	-
Teaching and training:					
All ages	67	66	81	78	84
Under 35 years	24	17	24	19	21
35-39 years	11	18	18	22	21
40-49 years	25	24	27	26	26
50-54 years	3	4	9	9	12
55-56 years	-	-	-	-	2
57-59 years	2	1	-	-	-
60-61 years	-	-	1	1	-
62 years and over	2	2	2	1	2
No report	-	-	-	-	-
Other - not elsewhere classified:					
All ages	1,653	1,848	1,931	2,056	1,935
Under 35 years	1,085	1,203	1,161	1,140	1,002
35-39 years	233	263	297	337	356
40-49 years	246	287	363	435	423
50-54 years	47	57	62	93	96
55-56 years	14	7	17	19	21
57-59 years	11	13	14	15	19
60-61 years	6	7	5	9	9
62 years and over	11	11	12	8	9
No report	-	-	-	-	-
Activity unknown:					
All ages	6,053	6,640	7,878	8,240	8,746
Under 35 years	2,132	2,249	2,724	2,757	2,785
35-39 years	1,398	1,445	1,607	1,658	1,715
40-49 years	1,958	2,284	2,717	2,878	3,122
50-54 years	328	405	524	609	723
55-56 years	76	88	96	101	160
57-59 years	77	82	101	118	122
60-61 years	38	42	40	44	46
62 years and over	46	45	69	75	73
No report	-	-	-	-	-

KEY: "-" = Zero

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-11c. Male Federal scientists and engineers, by primary work activity and age: 1989-93

Page 1 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Total, All Activities					
All ages	156,294	157,316	159,939	161,997	159,474
Under 35 years	47,274	47,174	47,461	46,235	42,904
35-39 years	22,867	22,507	22,759	22,960	23,115
40-49 years	47,749	48,523	49,557	50,467	50,157
50-54 years	18,641	19,116	19,630	20,375	21,054
55-56 years	5,430	5,378	5,745	6,177	6,250
57-59 years	6,493	6,542	6,498	6,770	6,852
60-61 years	2,858	2,895	3,056	3,341	3,325
62 years and over	4,981	5,181	5,233	5,670	5,815
No report	1	-	-	2	2
Development:					
All ages	25,351	25,542	23,932	26,367	25,599
Under 35 years	9,843	10,133	9,831	10,162	9,456
35-39 years	2,756	2,771	2,666	3,168	3,407
40-49 years	6,461	6,248	5,411	6,047	5,868
50-54 years	3,083	3,100	2,916	3,270	3,236
55-56 years	909	893	879	1,035	1,023
57-59 years	1,074	1,116	989	1,163	1,106
60-61 years	450	468	452	568	568
62 years and over	774	813	788	954	935
No report	1	-	-	-	-
Research:					
All ages	17,012	16,972	17,108	17,361	16,897
Under 35 years	3,479	3,414	3,487	3,399	3,032
35-39 years	2,585	2,610	2,641	2,653	2,554
40-49 years	5,525	5,405	5,422	5,537	5,376
50-54 years	2,474	2,528	2,502	2,561	2,608
55-56 years	740	764	770	824	867
57-59 years	984	979	945	949	994
60-61 years	428	435	488	509	483
62 years and over	797	837	853	929	983
No report	-	-	-	-	-
Design:					
All ages	13,953	13,555	13,250	13,340	12,903
Under 35 years	5,303	5,011	4,754	4,550	4,124
35-39 years	1,918	1,869	1,894	1,875	1,937
40-49 years	3,598	3,585	3,516	3,715	3,661
50-54 years	1,508	1,494	1,450	1,467	1,439

See explanatory information, if any, and SOURCE at end of table.

Table B-11c. Male Federal scientists and engineers, by primary work activity and age: 1989-93

Page 2 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Design (continued):					
55-56 years	431	412	481	480	453
57-59 years	508	477	484	532	574
60-61 years	232	246	229	241	249
62 years and over	455	461	442	480	466
No report	-	-	-	-	-
Data collection, processing, and analysis:					
All ages	10,910	10,904	11,096	11,233	11,035
Under 35 years	3,214	3,216	3,359	3,357	3,157
35-39 years	1,959	1,856	1,805	1,724	1,647
40-49 years	3,501	3,564	3,584	3,643	3,628
50-54 years	1,164	1,197	1,280	1,339	1,389
55-56 years	322	306	328	338	370
57-59 years	364	380	354	401	387
60-61 years	162	148	153	177	182
62 years and over	224	237	233	254	275
No report	-	-	-	-	-
Natural resources operations:					
All ages	9,696	9,815	10,071	10,530	10,637
Under 35 years	2,591	2,367	2,230	2,226	2,057
35-39 years	2,494	2,415	2,393	2,276	2,117
40-49 years	3,300	3,654	3,991	4,399	4,661
50-54 years	771	824	887	983	1,097
55-56 years	188	216	219	240	248
57-59 years	196	192	202	224	250
60-61 years	72	64	71	93	92
62 years and over	84	83	78	89	115
No report	-	-	-	-	-
Management:					
All ages	7,903	8,021	7,786	7,850	7,580
Under 35 years	849	908	868	876	790
35-39 years	814	811	794	782	780
40-49 years	3,049	3,034	2,954	2,886	2,721
50-54 years	1,650	1,652	1,638	1,602	1,576
55-56 years	466	503	479	544	522
57-59 years	519	536	515	565	557
60-61 years	209	217	210	251	260
62 years and over	347	360	328	344	374
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-11c. Male Federal scientists and engineers, by primary work activity and age: 1989-93

Page 3 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Installation, operations, and maintenance:					
All ages	10,689	10,565	10,653	10,648	10,366
Under 35 years	4,618	4,535	4,524	4,355	4,062
35-39 years	1,330	1,323	1,341	1,409	1,514
40-49 years	2,585	2,585	2,619	2,614	2,589
50-54 years	942	984	1,004	1,032	1,032
55-56 years	325	270	278	318	323
57-59 years	385	384	399	377	334
60-61 years	188	168	178	200	198
62 years and over	316	316	310	343	314
No report	-	-	-	-	-
Test and evaluation:					
All ages	8,574	8,798	8,757	8,980	9,054
Under 35 years	3,888	4,068	4,087	4,020	3,831
35-39 years	930	939	1,021	1,087	1,229
40-49 years	2,021	2,058	1,975	2,048	2,062
50-54 years	830	824	800	852	936
55-56 years	286	261	220	249	276
57-59 years	283	305	307	340	305
60-61 years	130	130	132	139	165
62 years and over	206	213	215	245	250
No report	-	-	-	-	-
Planning:					
All ages	5,400	5,230	5,135	5,108	5,024
Under 35 years	1,058	987	940	889	866
35-39 years	914	837	821	795	764
40-49 years	2,006	1,985	1,977	1,975	1,902
50-54 years	768	780	754	764	776
55-56 years	209	195	192	235	231
57-59 years	202	202	219	212	235
60-61 years	102	90	81	92	95
62 years and over	141	154	151	146	155
No report	-	-	-	-	-
Technical assistance and consulting:					
All ages	3,433	3,445	3,511	3,584	3,538
Under 35 years	533	560	616	654	597
35-39 years	544	501	485	475	465
40-49 years	1,254	1,288	1,304	1,251	1,272
50-54 years	498	530	530	568	580
55-56 years	141	126	153	185	172
57-59 years	198	173	168	172	185
60-61 years	97	94	97	95	87
62 years and over	168	173	158	184	180
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-11c. Male Federal scientists and engineers, by primary work activity and age: 1989-93

Page 4 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Production:					
All ages	5,217	5,199	5,298	5,368	5,150
Under 35 years	2,130	2,104	2,089	1,983	1,828
35-39 years	584	569	573	635	676
40-49 years	1,140	1,163	1,232	1,281	1,290
50-54 years	471	456	470	498	481
55-56 years	156	157	167	183	158
57-59 years	282	264	253	239	211
60-61 years	143	152	159	176	149
62 years and over	311	334	355	373	357
No report	-	-	-	-	-
Regulatory enforcement of licensing:					
All ages	4,099	4,313	4,683	4,814	4,735
Under 35 years	1,015	1,087	1,210	1,200	1,087
35-39 years	691	679	747	750	733
40-49 years	1,295	1,399	1,499	1,550	1,518
50-54 years	429	468	495	538	584
55-56 years	147	136	171	185	171
57-59 years	186	197	187	200	231
60-61 years	106	102	114	108	107
62 years and over	230	245	260	283	304
No report	-	-	-	-	-
Construction:					
All ages	4,821	4,595	4,379	4,312	4,288
Under 35 years	1,406	1,221	1,135	1,064	1,009
35-39 years	751	719	667	681	696
40-49 years	1,469	1,483	1,419	1,431	1,402
50-54 years	581	554	561	551	558
55-56 years	165	184	174	167	178
57-59 years	193	188	187	180	186
60-61 years	77	80	73	91	96
62 years and over	179	166	163	147	163
No report	-	-	-	-	-
Clinical practice, counseling, and ancillary medical service:					
All ages	2,384	2,483	2,643	2,702	2,808
Under 35 years	252	250	262	268	264
35-39 years	394	399	374	340	345
40-49 years	1,096	1,154	1,247	1,252	1,263
50-54 years	265	294	341	401	471

See explanatory information, if any, and SOURCE at end of table.

Table B-11c. Male Federal scientists and engineers, by primary work activity and age: 1989-93

Page 5 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Clinical practice, counseling, and ancillary medical service (continued):					
55-56 years	77	94	99	95	109
57-59 years	139	127	125	131	145
60-61 years	63	69	84	91	68
62 years and over	98	96	111	124	142
No report	-	-	-	-	1
Standards and specifications:					
All ages	1,468	1,475	1,392	1,400	1,278
Under 35 years	372	359	337	318	284
35-39 years	185	187	172	173	146
40-49 years	436	448	443	448	393
50-54 years	191	203	182	198	187
55-56 years	69	58	58	64	67
57-59 years	88	85	78	69	68
60-61 years	34	41	35	38	42
62 years and over	93	94	87	92	91
No report	-	-	-	-	-
Scientific and technical information:					
All ages	1,418	1,508	1,533	1,594	1,626
Under 35 years	405	435	458	465	457
35-39 years	219	229	229	247	255
40-49 years	453	486	467	479	496
50-54 years	156	168	182	183	207
55-56 years	44	49	58	61	52
57-59 years	67	67	57	72	68
60-61 years	29	24	35	30	31
62 years and over	45	50	47	57	60
No report	-	-	-	-	-
Research contract and grant administration:					
All ages	758	812	805	830	802
Under 35 years	86	102	104	124	121
35-39 years	84	86	86	85	79
40-49 years	306	293	269	265	249
50-54 years	135	157	166	183	175
55-56 years	40	47	44	40	45
57-59 years	35	50	56	56	53
60-61 years	22	25	22	21	25
62 years and over	50	52	58	56	55
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-11c. Male Federal scientists and engineers, by primary work activity and age: 1989-93

Page 6 of 6

Primary work activity and age	1989	1990	1991	1992	1993
Teaching and training:					
All ages	309	340	361	353	387
Under 35 years	43	45	56	50	61
35-39 years	39	46	40	38	39
40-49 years	121	135	149	147	151
50-54 years	45	50	46	54	61
55-56 years	12	12	12	15	19
57-59 years	24	16	18	14	17
60-61 years	8	16	20	11	12
62 years and over	17	20	20	24	27
No report	-	-	-	-	-
Other - not elsewhere classified:					
All ages	6,676	7,019	6,751	6,684	6,308
Under 35 years	3,402	3,486	3,137	2,855	2,383
35-39 years	755	830	796	880	902
40-49 years	1,455	1,564	1,670	1,720	1,741
50-54 years	489	552	559	590	659
55-56 years	161	148	176	185	204
57-59 years	179	194	184	193	177
60-61 years	76	76	72	101	100
62 years and over	159	169	157	160	142
No report	-	-	-	-	-
Activity unknown:					
All ages	16,223	16,725	20,795	18,939	19,459
Under 35 years	2,787	2,886	3,977	3,420	3,438
35-39 years	2,921	2,831	3,214	2,887	2,830
40-49 years	6,678	6,992	8,409	7,779	7,914
50-54 years	2,191	2,301	2,867	2,741	3,002
55-56 years	542	547	787	734	762
57-59 years	587	610	771	681	769
60-61 years	230	250	351	309	316
62 years and over	287	308	419	386	427
No report	-	-	-	2	1

KEY: "-" = Zero

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
All Races:					
Total, all activities:					
All ages	185,623	189,049	194,726	198,853	196,908
Under 35 years	62,861	63,507	64,854	63,792	59,474
35-39 years	27,990	28,171	29,056	29,919	30,440
40-49 years	53,868	55,492	57,524	59,272	59,697
50-54 years	19,935	20,626	21,372	22,394	23,401
55-56 years	5,730	5,724	6,141	6,609	6,750
57-59 years	6,852	6,900	6,909	7,218	7,367
60-61 years	3,050	3,078	3,238	3,554	3,534
62 years and over	5,335	5,551	5,632	6,091	6,240
No report	2	-	-	4	5
Development:					
All ages	28,791	29,190	27,502	30,299	29,529
Under 35 years	12,257	12,631	12,299	12,718	11,859
35-39 years	3,154	3,211	3,092	3,715	4,021
40-49 years	6,925	6,774	5,902	6,636	6,506
50-54 years	3,177	3,205	3,014	3,409	3,402
55-56 years	922	917	912	1,066	1,056
57-59 years	1,095	1,135	1,010	1,191	1,143
60-61 years	464	480	460	583	580
62 years and over	795	837	813	981	962
No report	2	-	-	-	-
Research:					
All ages	21,242	21,381	21,768	22,246	21,670
Under 35 years	5,211	5,170	5,322	5,228	4,637
35-39 years	3,398	3,472	3,573	3,667	3,551
40-49 years	6,620	6,576	6,650	6,858	6,753
50-54 years	2,771	2,851	2,858	2,951	3,043
55-56 years	807	835	854	917	971
57-59 years	1,067	1,060	1,031	1,037	1,103
60-61 years	471	469	521	551	528
62 years and over	897	948	959	1,037	1,084
No report	-	-	-	-	-
Design:					
All ages	15,171	14,781	14,521	14,681	14,209
Under 35 years	6,277	5,965	5,716	5,523	5,016
35-39 years	2,045	2,006	2,066	2,072	2,162
40-49 years	3,685	3,684	3,621	3,843	3,809
50-54 years	1,531	1,518	1,468	1,489	1,461

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Design (continued):					
55-56 years	434	419	490	487	460
57-59 years	509	477	486	541	583
60-61 years	232	246	229	243	249
62 years and over	458	466	445	483	469
No report	-	-	-	-	-
Data collection, processing, and analysis:					
All ages	14,236	14,325	14,795	14,951	14,675
Under 35 years	4,902	4,887	5,155	5,101	4,768
35-39 years	2,562	2,505	2,497	2,411	2,326
40-49 years	4,211	4,327	4,433	4,546	4,567
50-54 years	1,329	1,369	1,477	1,551	1,627
55-56 years	359	353	367	378	410
57-59 years	411	421	402	447	442
60-61 years	189	175	178	201	202
62 years and over	273	288	286	316	333
No report	-	-	-	-	-
Natural resources operations:					
All ages	11,488	11,904	12,455	13,235	13,461
Under 35 years	3,842	3,707	3,648	3,736	3,498
35-39 years	2,885	2,944	3,035	3,025	2,944
40-49 years	3,424	3,842	4,273	4,794	5,156
50-54 years	784	840	911	1,011	1,132
55-56 years	192	222	223	245	257
57-59 years	200	199	211	233	256
60-61 years	73	66	75	100	99
62 years and over	88	84	79	91	119
No report	-	-	-	-	-
Management:					
All ages	8,407	8,625	8,505	8,682	8,488
Under 35 years	1,076	1,172	1,162	1,194	1,113
35-39 years	906	921	930	959	976
40-49 years	3,172	3,191	3,169	3,128	2,998
50-54 years	1,681	1,694	1,678	1,655	1,634
55-56 years	475	510	487	554	536
57-59 years	525	544	524	579	574
60-61 years	216	224	214	257	267
62 years and over	356	369	341	356	390
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Installation, operations, and maintenance:					
All ages	11,480	11,429	11,608	11,623	11,353
Under 35 years	5,283	5,248	5,286	5,089	4,771
35-39 years	1,395	1,400	1,447	1,550	1,673
40-49 years	2,625	2,641	2,686	2,692	2,683
50-54 years	955	993	1,017	1,044	1,045
55-56 years	328	275	280	321	327
57-59 years	388	387	402	383	338
60-61 years	190	168	178	200	200
62 years and over	316	317	312	344	315
No report	-	-	-	-	1
Test and evaluation:					
All ages	9,712	10,095	10,160	10,409	10,495
Under 35 years	4,629	4,917	4,986	4,916	4,669
35-39 years	1,065	1,092	1,189	1,257	1,426
40-49 years	2,196	2,252	2,182	2,272	2,310
50-54 years	872	881	875	927	1,025
55-56 years	299	273	236	274	298
57-59 years	299	323	323	356	326
60-61 years	139	134	142	150	173
62 years and over	213	223	227	257	268
No report	-	-	-	-	-
Planning:					
All ages	6,374	6,238	6,223	6,271	6,169
Under 35 years	1,558	1,502	1,481	1,453	1,366
35-39 years	1,121	1,027	1,044	1,041	1,031
40-49 years	2,210	2,216	2,218	2,233	2,176
50-54 years	799	824	802	824	847
55-56 years	216	202	207	247	239
57-59 years	216	217	231	221	247
60-61 years	105	92	84	99	100
62 years and over	149	158	156	153	163
No report	-	-	-	-	-
Technical assistance and consulting:					
All ages	4,118	4,204	4,338	4,526	4,556
Under 35 years	827	889	963	1,047	998
35-39 years	664	646	642	634	631
40-49 years	1,434	1,479	1,530	1,524	1,584
50-54 years	531	563	566	618	650

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Technical assistance and consulting (continued):					
55-56 years	154	137	166	198	183
57-59 years	208	189	187	193	205
60-61 years	111	105	103	104	101
62 years and over	189	196	181	208	204
No report	-	-	-	-	-
Production:					
All ages	5,708	5,703	5,836	5,884	5,659
Under 35 years	2,551	2,520	2,519	2,368	2,187
35-39 years	619	615	628	710	766
40-49 years	1,162	1,190	1,268	1,322	1,336
50-54 years	478	466	479	507	486
55-56 years	158	159	169	184	160
57-59 years	283	264	255	241	214
60-61 years	143	153	161	176	149
62 years and over	314	336	357	376	361
No report	-	-	-	-	-
Regulatory enforcement of licensing:					
All ages	4,951	5,332	5,867	6,026	5,910
Under 35 years	1,546	1,704	1,925	1,862	1,686
35-39 years	836	850	955	998	970
40-49 years	1,415	1,561	1,683	1,774	1,766
50-54 years	457	505	533	580	637
55-56 years	153	141	182	194	180
57-59 years	193	208	198	209	241
60-61 years	109	104	119	113	113
62 years and over	242	259	272	296	317
No report	-	-	-	-	-
Construction:					
All ages	5,170	4,940	4,746	4,698	4,682
Under 35 years	1,694	1,483	1,403	1,331	1,270
35-39 years	781	762	719	752	778
40-49 years	1,494	1,517	1,459	1,467	1,437
50-54 years	584	558	563	557	567
55-56 years	166	185	176	169	179
57-59 years	194	188	186	181	190
60-61 years	78	81	74	91	96
62 years and over	179	166	164	150	165
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Clinical practice, counseling, and ancillary medical service:					
All ages	3,430	3,625	3,981	4,201	4,440
Under 35 years	515	537	610	649	657
35-39 years	615	652	647	645	666
40-49 years	1,453	1,538	1,701	1,764	1,843
50-54 years	355	396	473	555	657
55-56 years	101	125	130	136	147
57-59 years	177	159	164	175	195
60-61 years	79	86	109	116	90
62 years and over	135	132	147	161	184
No report	-	-	-	-	1
Standards and specifications:					
All ages	1,674	1,692	1,620	1,642	1,506
Under 35 years	497	483	460	453	399
35-39 years	206	212	202	203	184
40-49 years	471	487	492	497	439
50-54 years	204	220	198	213	205
55-56 years	70	59	59	68	70
57-59 years	91	88	80	71	70
60-61 years	36	44	37	39	43
62 years and over	99	99	92	98	96
No report	-	-	-	-	-
Scientific and technical information:					
All ages	1,746	1,905	1,957	2,057	2,146
Under 35 years	584	644	683	708	718
35-39 years	274	303	298	338	356
40-49 years	516	561	555	577	618
50-54 years	168	185	196	194	223
55-56 years	45	54	66	67	57
57-59 years	74	72	65	77	75
60-61 years	33	29	39	34	34
62 years and over	52	57	55	62	65
No report	-	-	-	-	-
Research contract and grant administration:					
All ages	944	1,042	1,047	1,070	1,039
Under 35 years	139	162	157	175	172
35-39 years	107	120	120	120	116
40-49 years	372	370	367	360	339
50-54 years	156	189	197	213	207

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Research contract and grant administration (continued):					
55-56 years	46	56	49	50	52
57-59 years	42	53	64	62	61
60-61 years	24	31	26	22	27
62 years and over	58	61	67	68	65
No report	-	-	-	-	-
Teaching and training:					
All ages	376	406	442	431	471
Under 35 years	67	62	80	69	82
35-39 years	50	64	58	60	60
40-49 years	146	159	176	173	177
50-54 years	48	54	55	63	73
55-56 years	12	12	12	15	21
57-59 years	26	17	18	14	17
60-61 years	8	16	21	12	12
62 years and over	19	22	22	25	29
No report	-	-	-	-	-
Other - not elsewhere classified:					
All ages	8,329	8,867	8,682	8,740	8,244
Under 35 years	4,487	4,689	4,298	3,995	3,385
35-39 years	988	1,093	1,093	1,217	1,258
40-49 years	1,701	1,851	2,033	2,155	2,164
50-54 years	536	609	621	683	755
55-56 years	175	155	193	204	225
57-59 years	190	207	198	208	196
60-61 years	82	83	77	110	109
62 years and over	170	180	169	168	151
No report	-	-	-	-	1
Activity unknown:					
All ages	22,276	23,365	28,673	27,181	28,206
Under 35 years	4,919	5,135	6,701	6,177	6,223
35-39 years	4,319	4,276	4,821	4,545	4,545
40-49 years	8,636	9,276	11,126	10,657	11,036
50-54 years	2,519	2,706	3,391	3,350	3,725
55-56 years	618	635	883	835	922
57-59 years	664	692	872	799	891
60-61 years	268	292	391	353	362
62 years and over	333	353	488	461	500
No report	-	-	-	4	2

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
White:					
Total, all activities:					
All ages	159,401	161,431	165,564	168,316	166,084
Under 35 years	51,747	51,786	52,612	51,549	47,914
35-39 years	24,127	24,188	24,774	25,162	25,318
40-49 years	47,264	48,497	50,151	51,487	51,612
50-54 years	17,522	18,071	18,625	19,469	20,363
55-56 years	5,083	5,008	5,368	5,751	5,888
57-59 years	6,110	6,141	6,093	6,337	6,381
60-61 years	2,763	2,769	2,885	3,109	3,088
62 years and over	4,784	4,971	5,056	5,450	5,515
No report	1	-	-	2	5
Development:					
All ages	25,021	25,210	23,500	25,828	25,045
Under 35 years	10,186	10,376	10,010	10,303	9,578
35-39 years	2,670	2,714	2,573	3,080	3,292
40-49 years	6,254	6,087	5,254	5,864	5,658
50-54 years	2,901	2,934	2,744	3,091	3,107
55-56 years	843	840	821	969	968
57-59 years	1,000	1,042	923	1,088	1,032
60-61 years	436	449	419	530	530
62 years and over	730	768	756	903	880
No report	1	-	-	-	-
Research:					
All ages	18,756	18,821	19,098	19,449	18,934
Under 35 years	4,492	4,451	4,548	4,453	3,937
35-39 years	3,031	3,086	3,141	3,179	3,068
40-49 years	5,875	5,820	5,896	6,095	6,006
50-54 years	2,456	2,526	2,520	2,594	2,694
55-56 years	716	738	753	796	851
57-59 years	955	929	916	917	965
60-61 years	427	422	464	482	461
62 years and over	804	849	860	933	952
No report	-	-	-	-	-
Design:					
All ages	12,381	12,001	11,742	11,909	11,473
Under 35 years	5,030	4,764	4,558	4,431	4,014
35-39 years	1,673	1,644	1,680	1,686	1,729
40-49 years	3,016	2,996	2,947	3,123	3,111
50-54 years	1,283	1,261	1,176	1,200	1,175

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Design (continued):					
55-56 years	365	338	421	419	366
57-59 years	441	413	405	451	488
60-61 years	193	204	192	203	214
62 years and over	380	381	363	396	376
No report	-	-	-	-	-
Data collection, processing, and analysis:					
All ages	12,305	12,289	12,687	12,784	12,591
Under 35 years	4,135	4,078	4,298	4,262	4,029
35-39 years	2,243	2,157	2,170	2,066	1,975
40-49 years	3,722	3,811	3,897	3,981	3,999
50-54 years	1,126	1,175	1,257	1,332	1,409
55-56 years	312	293	305	315	351
57-59 years	352	363	343	377	369
60-61 years	174	155	155	171	169
62 years and over	241	257	262	280	290
No report	-	-	-	-	-
Natural resources operations:					
All ages	10,488	10,835	11,333	12,046	12,234
Under 35 years	3,428	3,262	3,207	3,297	3,075
35-39 years	2,640	2,711	2,784	2,757	2,663
40-49 years	3,161	3,540	3,936	4,418	4,759
50-54 years	734	786	856	946	1,055
55-56 years	183	208	207	226	241
57-59 years	189	187	197	222	238
60-61 years	71	65	71	94	93
62 years and over	82	76	75	86	110
No report	-	-	-	-	-
Management:					
All ages	7,657	7,799	7,650	7,765	7,538
Under 35 years	922	990	988	1,023	943
35-39 years	804	808	810	832	847
40-49 years	2,919	2,917	2,868	2,798	2,655
50-54 years	1,561	1,566	1,538	1,500	1,477
55-56 years	438	458	452	514	493
57-59 years	479	508	485	534	525
60-61 years	201	213	197	233	244
62 years and over	333	339	312	331	354
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Installation, operations, and maintenance:					
All ages	9,382	9,245	9,334	9,251	8,956
Under 35 years	4,105	4,027	4,035	3,825	3,571
35-39 years	1,123	1,127	1,151	1,197	1,252
40-49 years	2,215	2,212	2,238	2,240	2,214
50-54 years	821	840	861	885	886
55-56 years	297	243	246	271	274
57-59 years	356	356	361	344	299
60-61 years	175	150	160	179	178
62 years and over	290	290	282	310	281
No report	-	-	-	-	1
Test and evaluation:					
All ages	8,004	8,150	8,157	8,359	8,379
Under 35 years	3,638	3,757	3,813	3,774	3,561
35-39 years	871	882	942	991	1,110
40-49 years	1,903	1,911	1,848	1,906	1,917
50-54 years	767	771	746	788	875
55-56 years	261	232	206	234	259
57-59 years	260	287	282	311	276
60-61 years	123	118	123	130	150
62 years and over	181	192	197	225	231
No report	-	-	-	-	-
Planning:					
All ages	5,666	5,513	5,463	5,475	5,371
Under 35 years	1,342	1,266	1,231	1,188	1,132
35-39 years	1,011	930	940	924	897
40-49 years	1,974	1,979	1,979	1,997	1,922
50-54 years	724	735	715	734	761
55-56 years	198	186	181	217	213
57-59 years	188	190	199	194	210
60-61 years	95	84	75	85	87
62 years and over	134	143	143	136	149
No report	-	-	-	-	-
Technical assistance and consulting:					
All ages	3,494	3,547	3,625	3,752	3,730
Under 35 years	682	729	759	824	771
35-39 years	584	568	558	543	531
40-49 years	1,210	1,245	1,282	1,271	1,317
50-54 years	449	473	493	531	546

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Technical assistance and consulting (continued):					
55-56 years	127	117	138	163	156
57-59 years	177	154	151	158	167
60-61 years	95	88	84	84	73
62 years and over	170	173	160	178	169
No report	-	-	-	-	-
Production:					
All ages	4,755	4,768	4,852	4,877	4,636
Under 35 years	2,032	2,010	2,008	1,893	1,734
35-39 years	495	497	490	545	572
40-49 years	972	993	1,068	1,120	1,125
50-54 years	418	416	411	424	404
55-56 years	147	148	153	162	139
57-59 years	260	244	237	219	197
60-61 years	138	145	149	161	133
62 years and over	293	315	336	353	332
No report	-	-	-	-	-
Regulatory enforcement of licensing:					
All ages	4,227	4,492	4,914	5,016	4,887
Under 35 years	1,305	1,412	1,580	1,500	1,334
35-39 years	738	743	827	867	840
40-49 years	1,204	1,333	1,438	1,520	1,511
50-54 years	370	394	418	453	500
55-56 years	127	110	147	161	147
57-59 years	164	172	161	161	188
60-61 years	100	92	100	92	90
62 years and over	219	236	243	262	277
No report	-	-	-	-	-
Construction:					
All ages	4,271	4,058	3,876	3,808	3,749
Under 35 years	1,374	1,192	1,110	1,045	979
35-39 years	661	636	598	605	622
40-49 years	1,232	1,259	1,205	1,217	1,180
50-54 years	471	443	459	454	450
55-56 years	147	156	139	125	148
57-59 years	162	161	158	153	144
60-61 years	67	69	65	74	80
62 years and over	157	142	142	135	146
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Clinical practice, counseling, and ancillary medical service:					
All ages	2,893	3,068	3,344	3,519	3,707
Under 35 years	426	446	505	544	534
35-39 years	507	549	528	530	551
40-49 years	1,246	1,314	1,454	1,490	1,558
50-54 years	291	328	393	462	551
55-56 years	83	99	100	109	118
57-59 years	151	136	140	140	156
60-61 years	70	78	91	98	76
62 years and over	119	118	133	146	162
No report	-	-	-	-	1
Standards and specifications:					
All ages	1,417	1,424	1,368	1,363	1,240
Under 35 years	399	388	368	359	314
35-39 years	167	168	162	160	151
40-49 years	397	417	423	421	360
50-54 years	174	182	169	180	171
55-56 years	66	53	51	55	59
57-59 years	84	81	74	62	56
60-61 years	35	39	33	34	40
62 years and over	95	96	88	92	89
No report	-	-	-	-	-
Scientific and technical information:					
All ages	1,546	1,675	1,718	1,801	1,872
Under 35 years	516	542	583	599	600
35-39 years	247	273	269	300	321
40-49 years	442	496	488	505	541
50-54 years	154	169	174	175	196
55-56 years	42	51	62	64	53
57-59 years	70	68	59	70	69
60-61 years	30	26	34	32	34
62 years and over	45	50	49	56	58
No report	-	-	-	-	-
Research contract and grant administration:					
All ages	826	915	919	943	913
Under 35 years	107	132	126	140	140
35-39 years	99	109	108	108	99
40-49 years	331	330	324	321	307
50-54 years	134	162	173	190	183

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Research contract and grant administration (continued):					
55-56 years	42	46	42	46	43
57-59 years	36	49	58	55	56
60-61 years	22	29	24	19	24
62 years and over	55	58	64	64	61
No report	-	-	-	-	-
Teaching and training:					
All ages	333	349	369	362	400
Under 35 years	53	45	54	54	70
35-39 years	47	57	49	45	46
40-49 years	131	141	157	152	156
50-54 years	44	46	46	56	62
55-56 years	11	11	10	11	18
57-59 years	21	14	14	12	12
60-61 years	8	14	18	9	8
62 years and over	18	21	21	23	28
No report	-	-	-	-	-
Other - not elsewhere classified:					
All ages	6,865	7,300	7,166	7,127	6,746
Under 35 years	3,544	3,710	3,404	3,119	2,666
35-39 years	798	897	906	986	1,016
40-49 years	1,483	1,604	1,753	1,824	1,827
50-54 years	476	530	539	593	645
55-56 years	162	136	163	176	192
57-59 years	175	188	180	184	170
60-61 years	75	74	70	97	95
62 years and over	152	161	151	148	134
No report	-	-	-	-	1
Activity unknown:					
All ages	19,114	19,972	24,449	22,882	23,683
Under 35 years	4,031	4,209	5,427	4,916	4,932
35-39 years	3,718	3,632	4,088	3,761	3,736
40-49 years	7,577	8,092	9,696	9,224	9,489
50-54 years	2,168	2,334	2,937	2,881	3,216
55-56 years	516	545	771	718	799
57-59 years	590	599	750	685	764
60-61 years	228	255	361	302	309
62 years and over	286	306	419	393	436
No report	-	-	-	2	2

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Black:					
Total, all activities:					
All ages	8,409	8,712	9,216	9,579	9,682
Under 35 years	3,645	3,780	4,009	3,974	3,806
35-39 years	1,295	1,308	1,345	1,521	1,639
40-49 years	2,044	2,178	2,314	2,438	2,532
50-54 years	726	739	828	861	890
55-56 years	211	216	234	236	238
57-59 years	240	250	244	257	262
60-61 years	96	89	101	145	137
62 years and over	152	152	141	147	178
No report	-	-	-	-	-
Development:					
All ages	1,124	1,160	1,193	1,233	1,220
Under 35 years	632	669	708	677	651
35-39 years	123	123	136	170	200
40-49 years	193	193	175	194	201
50-54 years	76	72	79	92	81
55-56 years	29	31	28	25	20
57-59 years	38	40	36	34	35
60-61 years	10	8	13	21	16
62 years and over	23	24	18	20	16
No report	-	-	-	-	-
Research:					
All ages	660	639	643	649	619
Under 35 years	227	240	252	244	215
35-39 years	95	76	90	89	89
40-49 years	174	160	152	164	154
50-54 years	76	69	68	66	71
55-56 years	25	28	24	23	22
57-59 years	26	30	29	30	27
60-61 years	17	14	9	17	17
62 years and over	20	22	19	16	24
No report	-	-	-	-	-
Design:					
All ages	519	514	532	525	494
Under 35 years	307	305	301	285	242
35-39 years	63	56	68	79	98
40-49 years	86	89	94	95	95
50-54 years	30	36	41	37	31

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Design (continued):					
55-56 years	8	8	8	10	14
57-59 years	8	9	9	8	5
60-61 years	4	2	6	7	2
62 years and over	13	9	5	4	7
No report	-	-	-	-	-
Data collection, processing, and analysis:					
All ages	839	867	892	900	878
Under 35 years	383	388	389	368	326
35-39 years	136	153	152	159	165
40-49 years	190	204	223	241	250
50-54 years	71	69	72	73	77
55-56 years	19	14	20	20	17
57-59 years	24	24	23	21	19
60-61 years	6	6	5	8	13
62 years and over	10	9	8	10	11
No report	-	-	-	-	-
Natural resources operations:					
All ages	370	378	382	389	398
Under 35 years	145	148	140	136	134
35-39 years	90	73	75	73	74
40-49 years	115	132	137	146	146
50-54 years	12	17	24	25	30
55-56 years	2	1	2	5	8
57-59 years	3	5	3	2	2
60-61 years	1	-	-	1	3
62 years and over	2	2	1	1	1
No report	-	-	-	-	-
Management:					
All ages	254	278	278	299	323
Under 35 years	60	72	69	74	79
35-39 years	27	33	34	43	47
40-49 years	83	76	83	79	91
50-54 years	35	43	49	60	56
55-56 years	17	21	10	11	15
57-59 years	14	15	13	14	15
60-61 years	6	3	7	6	5
62 years and over	12	15	13	12	15
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Installation, operations, and maintenance:					
All ages	[illegible]	433	461	484	466
Under 35 years	264	268	280	289	258
35-39 years	55	53	53	70	78
40-49 years	61	68	71	73	83
50-54 years	22	23	29	31	27
55-56 years	3	6	7	5	4
57-59 years	8	5	8	4	4
60-61 years	2	3	4	5	4
62 years and over	7	7	9	7	8
No report	-	-	-	-	-
Test and evaluation:					
All ages	412	432	463	463	468
Under 35 years	230	239	257	255	254
35-39 years	47	54	54	46	57
40-49 years	63	70	76	85	74
50-54 years	36	33	39	34	38
55-56 years	7	11	9	12	11
57-59 years	11	11	13	16	16
60-61 years	6	2	6	9	9
62 years and over	12	12	9	6	9
No report	-	-	-	-	-
Planning:					
All ages	232	244	241	259	246
Under 35 years	77	86	90	93	85
35-39 years	44	38	29	38	36
40-49 years	63	75	79	78	73
50-54 years	24	25	26	26	23
55-56 years	6	4	7	9	9
57-59 years	9	8	5	9	11
60-61 years	6	5	3	3	5
62 years and over	3	3	2	3	4
No report	-	-	-	-	-
Technical assistance and consulting:					
All ages	266	281	293	323	353
Under 35 years	67	67	82	83	97
35-39 years	28	33	32	36	42
40-49 years	99	109	101	117	115
50-54 years	39	40	33	36	46

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Technical assistance and consulting (continued):					
55-56 years	10	6	15	16	10
57-59 years	12	13	14	13	15
60-61 years	5	7	8	8	11
62 years and over	6	6	8	14	17
No report	-	-	-	-	-
Production:					
All ages	243	227	226	229	233
Under 35 years	164	148	140	133	124
35-39 years	25	32	36	40	45
40-49 years	23	21	25	28	35
50-54 years	18	12	15	15	16
55-56 years	2	2	2	3	4
57-59 years	5	5	2	3	1
60-61 years	2	2	3	4	3
62 years and over	4	5	3	3	5
No report	-	-	-	-	-
Regulatory enforcement of licensing:					
All ages	195	242	270	304	307
Under 35 years	81	113	132	153	151
35-39 years	27	35	43	50	53
40-49 years	54	59	56	62	60
50-54 years	19	20	23	21	25
55-56 years	4	6	8	6	6
57-59 years	3	5	3	6	6
60-61 years	2	1	2	4	3
62 years and over	5	3	3	2	3
No report	-	-	-	-	-
Construction:					
All ages	179	161	164	167	180
Under 35 years	92	79	84	80	88
35-39 years	24	21	13	21	26
40-49 years	35	38	43	38	36
50-54 years	19	16	16	15	19
55-56 years	3	2	4	8	4
57-59 years	3	2	2	1	5
60-61 years	1	1	-	2	1
62 years and over	2	2	2	2	1
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Clinical practice, counseling, and ancillary medical service:					
All ages	238	246	295	331	355
Under 35 years	39	39	52	52	60
35-39 years	56	51	56	68	61
40-49 years	88	101	118	128	135
50-54 years	28	23	30	38	46
55-56 years	8	12	13	9	17
57-59 years	12	11	12	20	17
60-61 years	2	3	8	8	8
62 years and over	5	6	6	8	11
No report	-	-	-	-	-
Standards and specifications:					
All ages	74	80	82	89	86
Under 35 years	28	32	34	31	28
35-39 years	8	9	12	10	8
40-49 years	21	19	15	23	23
50-54 years	9	10	10	13	14
55-56 years	-	2	5	4	1
57-59 years	4	1	-	2	7
60-61 years	1	5	3	2	-
62 years and over	3	2	3	4	5
No report	-	-	-	-	-
Scientific and technical information:					
All ages	73	83	81	79	77
Under 35 years	26	36	35	34	33
35-39 years	7	10	11	14	15
40-49 years	32	25	23	23	22
50-54 years	3	6	6	4	4
55-56 years	1	1	2	-	-
57-59 years	1	3	1	1	-
60-61 years	2	1	2	2	-
62 years and over	1	1	1	1	3
No report	-	-	-	-	-
Research contract and grant administration:					
All ages	43	43	47	44	44
Under 35 years	15	11	14	17	15
35-39 years	3	5	5	3	6
40-49 years	13	14	18	17	15
50-54 years	6	6	5	1	2

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Research contract and grant administration (continued):					
55-56 years	2	2	-	2	3
57-59 years	3	3	3	2	1
60-61 years	1	1	1	1	2
62 years and over	-	1	1	1	-
No report	-	-	-	-	-
Teaching and training:					
All ages	13	18	27	22	23
Under 35 years	5	6	11	4	4
35-39 years	1	2	2	6	4
40-49 years	4	5	7	6	7
50-54 years	1	2	3	2	3
55-56 years	-	1	1	1	1
57-59 years	2	-	1	2	2
60-61 years	-	2	2	-	1
62 years and over	-	-	-	1	1
No report	-	-	-	-	-
Other - not elsewhere classified:					
All ages	519	573	587	617	579
Under 35 years	309	333	332	319	260
35-39 years	80	92	89	109	116
40-49 years	83	92	107	133	138
50-54 years	26	29	31	29	33
55-56 years	8	8	12	9	13
57-59 years	6	10	7	8	8
60-61 years	3	3	3	4	4
62 years and over	4	6	6	6	7
No report	-	-	-	-	-
Activity unknown:					
All ages	1,734	1,813	2,059	2,173	2,333
Under 35 years	494	501	607	647	702
35-39 years	356	359	355	397	419
40-49 years	564	628	711	708	779
50-54 years	176	188	229	243	248
55-56 years	57	50	57	58	59
57-59 years	48	50	60	61	66
60-61 years	19	20	16	33	30
62 years and over	20	17	24	26	30
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Asian:					
Total, all activities:					
All ages	9,866	10,565	11,192	11,764	11,930
Under 35 years	3,908	4,236	4,418	4,442	4,228
35-39 years	1,381	1,394	1,506	1,660	1,762
40-49 years	2,626	2,781	2,903	3,033	3,105
50-54 years	1,026	1,133	1,208	1,302	1,368
55-56 years	251	302	353	399	415
57-59 years	284	303	354	400	478
60-61 years	115	130	148	192	203
62 years and over	274	286	302	336	371
No report	1	-	-	-	-
Development:					
All ages	1,719	1,863	1,884	2,186	2,190
Under 35 years	894	1,003	1,018	1,129	1,043
35-39 years	246	256	253	315	335
40-49 years	337	349	349	417	473
50-54 years	139	146	138	164	152
55-56 years	28	30	47	54	56
57-59 years	34	33	31	46	60
60-61 years	9	13	19	20	22
62 years and over	31	33	29	41	49
No report	1	-	-	-	-
Research:					
All ages	1,380	1,465	1,534	1,636	1,621
Under 35 years	322	323	354	365	333
35-39 years	193	218	242	282	284
40-49 years	456	483	474	474	457
50-54 years	204	210	223	239	238
55-56 years	56	62	70	85	83
57-59 years	72	85	73	81	99
60-61 years	18	26	39	45	43
62 years and over	59	58	59	65	84
No report	-	-	-	-	-
Design:					
All ages	1,262	1,298	1,290	1,288	1,268
Under 35 years	458	466	438	422	398
35-39 years	166	164	166	148	157
40-49 years	354	370	368	387	357
50-54 years	138	137	152	155	160

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Design (continued):					
55-56 years	38	46	39	36	51
57-59 years	37	35	47	53	57
60-61 years	22	26	20	21	21
62 years and over	49	54	60	66	67
No report	-	-	-	-	-
Data collection, processing, and analysis:					
All ages	570	628	654	682	635
Under 35 years	177	216	237	236	191
35-39 years	95	94	81	90	82
40-49 years	180	182	185	185	180
50-54 years	69	72	87	90	90
55-56 years	15	27	26	25	27
57-59 years	13	15	18	30	35
60-61 years	6	7	8	9	11
62 years and over	15	15	12	17	19
No report	-	-	-	-	-
Natural resources operations:					
All ages	103	113	125	148	155
Under 35 years	47	47	49	61	59
35-39 years	19	22	25	33	41
40-49 years	27	30	33	36	31
50-54 years	8	10	11	10	15
55-56 years	1	2	4	4	2
57-59 years	1	1	2	2	5
60-61 years	-	-	1	2	1
62 years and over	-	1	-	-	1
No report	-	-	-	-	-
Management:					
All ages	242	278	306	326	330
Under 35 years	33	47	49	46	46
35-39 years	40	34	42	39	38
40-49 years	85	107	116	132	132
50-54 years	47	50	51	55	54
55-56 years	6	17	15	16	19
57-59 years	17	9	15	16	20
60-61 years	6	3	7	14	9
62 years and over	8	11	11	8	12
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Installation, operations, and maintenance:					
All ages	881	910	971	1,009	1,042
Under 35 years	493	514	541	546	558
35-39 years	116	116	131	143	166
40-49 years	182	178	184	188	183
50-54 years	51	66	68	74	80
55-56 years	7	6	13	20	21
57-59 years	14	11	14	14	13
60-61 years	8	8	8	9	8
62 years and over	10	11	12	15	13
No report	-	-	-	-	-
Test and evaluation:					
All ages	679	808	805	842	901
Under 35 years	397	497	490	479	470
35-39 years	71	67	80	94	121
40-49 years	121	149	135	153	171
50-54 years	35	39	50	61	73
55-56 years	18	19	14	15	17
57-59 years	16	13	15	17	22
60-61 years	8	9	7	6	8
62 years and over	13	15	14	17	19
No report	-	-	-	-	-
Planning:					
All ages	197	196	204	215	236
Under 35 years	48	52	64	71	66
35-39 years	28	23	20	21	36
40-49 years	73	66	58	58	69
50-54 years	26	32	30	29	27
55-56 years	8	9	9	12	12
57-59 years	9	9	17	12	17
60-61 years	1	1	4	8	5
62 years and over	4	4	2	4	4
No report	-	-	-	-	-
Technical assistance and consulting:					
All ages	177	180	187	178	198
Under 35 years	28	38	41	39	41
35-39 years	29	20	21	21	20
40-49 years	68	64	69	59	68
50-54 years	25	30	28	25	31

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Technical assistance and consulting (continued):					
55-56 years	9	8	8	12	12
57-59 years	5	9	9	11	12
60-61 years	5	2	3	4	6
62 years and over	8	9	8	7	8
No report	-	-	-	-	-
Production:					
All ages	421	431	470	492	491
Under 35 years	194	192	204	193	183
35-39 years	68	62	67	78	89
40-49 years	108	120	122	122	122
50-54 years	24	26	34	45	47
55-56 years	7	5	10	16	12
57-59 years	8	9	13	14	11
60-61 years	2	5	6	7	10
62 years and over	10	12	14	17	17
No report	-	-	-	-	-
Regulatory enforcement of licensing:					
All ages	359	405	460	478	490
Under 35 years	76	88	103	97	99
35-39 years	44	38	50	49	44
40-49 years	126	134	144	143	143
50-54 years	55	76	78	91	93
55-56 years	19	20	22	25	25
57-59 years	18	22	31	33	39
60-61 years	6	10	10	13	18
62 years and over	15	17	22	27	29
No report	-	-	-	-	-
Construction:					
All ages	343	348	345	354	370
Under 35 years	90	79	79	82	84
35-39 years	45	52	42	54	52
40-49 years	125	116	117	105	108
50-54 years	54	59	54	54	61
55-56 years	6	14	23	26	16
57-59 years	10	15	16	16	27
60-61 years	6	4	2	11	13
62 years and over	7	9	12	6	9
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Clinical practice, counseling, and ancillary medical service:					
All ages	102	99	102	114	117
Under 35 years	20	20	14	21	25
35-39 years	6	6	13	10	11
40-49 years	40	39	39	42	40
50-54 years	18	22	20	22	22
55-56 years	5	3	6	9	5
57-59 years	2	2	4	4	8
60-61 years	3	2	1	3	2
62 years and over	8	5	5	3	4
No report	-	-	-	-	-
Standards and specifications:					
All ages	103	110	102	112	95
Under 35 years	35	34	31	34	25
35-39 years	18	17	14	17	12
40-49 years	28	30	33	27	24
50-54 years	15	20	15	16	16
55-56 years	3	3	2	8	8
57-59 years	3	5	5	5	6
60-61 years	-	-	1	3	2
62 years and over	1	1	1	2	2
No report	-	-	-	-	-
Scientific and technical information:					
All ages	72	80	94	95	113
Under 35 years	29	35	36	40	46
35-39 years	9	10	8	8	8
40-49 years	20	21	28	29	34
50-54 years	8	9	13	10	15
55-56 years	1	1	-	2	3
57-59 years	1	1	5	4	5
60-61 years	-	-	1	-	-
62 years and over	4	3	3	2	2
No report	-	-	-	-	-
Research contract and grant administration:					
All ages	48	58	58	59	60
Under 35 years	9	12	11	10	10
35-39 years	1	4	4	3	5
40-49 years	19	17	19	18	13
50-54 years	13	18	16	19	21

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Research contract and grant administration (continued)					
55-56 years	1	5	5	1	4
57-59 years	1	-	1	5	4
60-61 years	1	-	-	1	-
62 years and over	3	2	2	2	3
No report	-	-	-	-	-
Teaching and training:					
All ages	15	12	14	15	19
Under 35 years	3	1	3	2	3
35-39 years	2	1	1	1	-
40-49 years	7	6	5	6	6
50-54 years	2	4	4	3	6
55-56 years	1	-	1	3	1
57-59 years	-	-	-	-	3
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Other - not elsewhere classified:					
All ages	555	557	478	522	474
Under 35 years	385	365	275	273	227
35-39 years	61	60	58	70	61
40-49 years	69	81	87	107	106
50-54 years	18	26	30	40	48
55-56 years	4	8	10	8	11
57-59 years	7	6	9	10	8
60-61 years	2	4	2	6	8
62 years and over	9	7	7	8	5
No report	-	-	-	-	-
Activity unknown:					
All ages	638	726	1,109	1,013	1,125
Under 35 years	170	207	381	296	321
35-39 years	124	130	188	184	200
40-49 years	201	239	338	345	388
50-54 years	77	81	106	100	119
55-56 years	18	17	29	22	30
57-59 years	16	23	29	27	27
60-61 years	12	10	9	10	16
62 years and over	20	19	29	29	24
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Hispanic:					
Total, all activities:					
All ages	5,331	5,687	6,071	6,354	6,394
Under 35 years	2,657	2,803	2,943	2,962	2,786
35-39 years	798	880	1,004	1,108	1,214
40-49 years	1,131	1,210	1,301	1,389	1,474
50-54 years	367	389	417	443	458
55-56 years	108	116	104	126	117
57-59 years	136	134	136	136	148
60-61 years	48	54	65	77	71
62 years and over	86	101	101	113	126
No report	-	-	-	-	-
Development:					
All ages	763	840	845	936	952
Under 35 years	475	533	530	566	548
35-39 years	92	104	119	137	175
40-49 years	106	116	107	129	134
50-54 years	46	43	44	49	50
55-56 years	14	12	14	16	8
57-59 years	16	14	14	14	14
60-61 years	6	7	8	11	9
62 years and over	8	11	9	14	14
No report	-	-	-	-	-
Research:					
All ages	355	355	388	401	392
Under 35 years	150	133	142	143	129
35-39 years	61	70	79	93	88
40-49 years	80	80	91	84	100
50-54 years	27	33	33	34	26
55-56 years	7	5	7	13	11
57-59 years	12	14	11	9	11
60-61 years	7	5	7	6	7
62 years and over	11	15	18	19	20
No report	-	-	-	-	-
Design:					
All ages	567	557	558	563	546
Under 35 years	300	279	280	261	245
35-39 years	81	79	90	93	95
40-49 years	115	114	98	118	114
50-54 years	32	36	46	45	42

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Design (continued):					
55-56 years	10	14	12	11	13
57-59 years	12	15	15	17	20
60-61 years	9	6	5	9	6
62 years and over	8	14	12	9	11
No report	-	-	-	-	-
Data collection, processing, and analysis:					
All ages	412	424	445	458	447
Under 35 years	181	176	197	193	180
35-39 years	75	83	77	81	86
40-49 years	85	98	97	104	105
50-54 years	43	34	43	40	36
55-56 years	10	13	9	12	12
57-59 years	13	12	13	13	11
60-61 years	-	3	6	9	7
62 years and over	5	5	3	6	10
No report	-	-	-	-	-
Natural resources operations:					
All ages	284	302	326	350	363
Under 35 years	145	151	152	153	150
35-39 years	75	77	88	94	97
40-49 years	51	59	73	89	97
50-54 years	5	5	7	11	14
55-56 years	4	5	1	-	-
57-59 years	2	3	4	1	1
60-61 years	1	-	-	1	1
62 years and over	1	2	1	1	3
No report	-	-	-	-	-
Management:					
All ages	156	188	187	196	198
Under 35 years	46	53	47	39	32
35-39 years	27	36	33	34	33
40-49 years	53	61	68	79	81
50-54 years	11	16	23	26	31
55-56 years	8	9	5	5	3
57-59 years	7	6	7	9	8
60-61 years	2	4	1	2	6
62 years and over	2	3	3	2	4
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Installation, operations, and maintenance:					
All ages	427	439	454	478	481
Under 35 years	267	268	272	277	249
35-39 years	49	56	63	74	96
40-49 years	67	69	77	78	86
50-54 years	24	25	20	18	19
55-56 years	7	7	7	11	9
57-59 years	4	4	8	10	12
60-61 years	2	3	1	3	5
62 years and over	7	7	6	7	5
No report	-	-	-	-	-
Test and evaluation:					
All ages	390	462	516	533	547
Under 35 years	245	291	318	316	304
35-39 years	41	57	77	88	100
40-49 years	56	66	71	70	86
50-54 years	24	27	29	31	27
55-56 years	10	8	3	8	11
57-59 years	6	8	10	9	8
60-61 years	2	2	2	4	4
62 years and over	6	3	6	7	7
No report	-	-	-	-	-
Planning:					
All ages	165	171	195	200	193
Under 35 years	61	70	66	74	63
35-39 years	25	18	34	34	38
40-49 years	48	52	60	56	58
50-54 years	14	17	18	20	19
55-56 years	2	1	5	5	2
57-59 years	7	7	6	3	7
60-61 years	1	2	2	2	2
62 years and over	7	4	4	6	4
No report	-	-	-	-	-
Technical assistance and consulting:					
All ages	140	150	176	209	215
Under 35 years	44	46	69	85	77
35-39 years	16	18	21	23	31
40-49 years	43	47	57	59	61
50-54 years	10	11	5	15	18

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Technical assistance and consulting (continued):					
55-56 years	8	6	2	3	4
57-59 years	12	11	12	10	7
60-61 years	5	6	5	6	9
62 years and over	2	5	5	8	8
No report	-	-	-	-	-
Production:					
All ages	242	231	244	244	259
Under 35 years	140	149	144	134	135
35-39 years	26	18	30	41	51
40-49 years	45	41	42	41	42
50-54 years	17	11	16	17	16
55-56 years	2	3	3	2	4
57-59 years	5	4	3	3	3
60-61 years	-	1	2	3	2
62 years and over	7	4	4	3	6
No report	-	-	-	-	-
Regulatory enforcement of licensing:					
All ages	153	174	198	204	207
Under 35 years	80	86	105	108	99
35-39 years	25	32	30	29	32
40-49 years	25	28	35	38	43
50-54 years	11	13	13	14	19
55-56 years	1	3	3	1	1
57-59 years	8	8	1	5	4
60-61 years	-	1	7	4	1
62 years and over	3	3	4	5	8
No report	-	-	-	-	-
Construction:					
All ages	238	232	231	239	240
Under 35 years	100	91	90	85	83
35-39 years	33	33	48	54	55
40-49 years	59	63	54	62	63
50-54 years	18	17	16	16	16
55-56 years	3	8	7	5	5
57-59 years	12	6	5	9	9
60-61 years	3	4	5	3	1
62 years and over	10	10	6	5	8
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Clinical practice, counseling, and ancillary medical service:					
All ages	105	115	129	131	145
Under 35 years	23	22	25	25	30
35-39 years	24	25	27	25	27
40-49 years	41	44	48	49	55
50-54 years	7	12	15	19	19
55-56 years	1	4	5	4	3
57-59 years	6	4	1	3	6
60-61 years	2	1	6	3	1
62 years and over	1	3	2	3	4
No report	-	-	-	-	-
Standards and specifications:					
All ages	38	36	32	39	43
Under 35 years	17	11	13	17	17
35-39 years	7	11	5	5	6
40-49 years	10	10	12	15	17
50-54 years	4	4	2	1	1
55-56 years	-	-	-	1	2
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Scientific and technical information:					
All ages	43	52	48	62	64
Under 35 years	12	29	26	30	33
35-39 years	9	6	7	12	10
40-49 years	15	11	8	12	13
50-54 years	2	1	2	4	5
55-56 years	1	1	1	-	-
57-59 years	2	-	-	1	1
60-61 years	1	2	2	-	-
62 years and over	1	2	2	3	2
No report	-	-	-	-	-
Research contract and grant administration:					
All ages	22	23	20	18	16
Under 35 years	6	7	6	7	6
35-39 years	4	2	2	2	2
40-49 years	7	7	4	3	3
50-54 years	2	3	3	3	1

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Research contract and grant administration (continued):					
55-56 years	1	2	2	1	2
57-59 years	2	1	2	-	-
60-61 years	-	1	1	1	1
62 years and over	-	-	-	1	1
No report	-	-	-	-	-
Teaching and training:					
All ages	6	9	10	12	10
Under 35 years	-	2	3	3	2
35-39 years	-	-	1	2	2
40-49 years	3	3	2	3	3
50-54 years	-	1	1	1	1
55-56 years	-	-	-	-	-
57-59 years	2	2	2	-	-
60-61 years	-	-	-	2	2
62 years and over	1	1	1	1	-
No report	-	-	-	-	-
Other - not elsewhere classified:					
All ages	285	323	339	347	313
Under 35 years	195	231	236	234	181
35-39 years	37	34	32	38	46
40-49 years	41	37	50	50	57
50-54 years	9	16	13	11	16
55-56 years	1	1	4	7	6
57-59 years	-	2	1	3	5
60-61 years	1	1	1	2	1
62 years and over	1	1	2	2	1
No report	-	-	-	-	-
Activity unknown:					
All ages	540	604	730	734	763
Under 35 years	170	175	222	212	223
35-39 years	91	121	141	149	144
40-49 years	181	204	247	250	256
50-54 years	61	64	68	68	82
55-56 years	18	14	14	21	21
57-59 years	8	13	21	17	21
60-61 years	6	5	4	6	6
62 years and over	5	8	13	11	10
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Native American:					
Total, all activities:					
All ages	929	1,002	1,106	1,198	1,249
Under 35 years	273	303	338	327	308
35-39 years	160	163	181	196	222
40-49 years	286	317	360	408	448
50-54 years	114	112	113	139	140
55-56 years	30	36	35	40	36
57-59 years	32	32	39	47	47
60-61 years	17	19	22	18	20
62 years and over	17	20	18	22	28
No report	-	-	-	1	-
Development:					
All ages	80	81	68	92	99
Under 35 years	32	35	31	38	35
35-39 years	11	7	8	8	14
40-49 years	15	18	13	21	29
50-54 years	8	8	7	12	11
55-56 years	5	4	2	1	3
57-59 years	4	5	5	8	2
60-61 years	3	3	1	1	2
62 years and over	2	1	1	3	3
No report	-	-	-	-	-
Research:					
All ages	46	54	61	62	63
Under 35 years	14	14	17	14	17
35-39 years	9	10	11	14	16
40-49 years	13	15	21	21	17
50-54 years	3	7	7	9	8
55-56 years	3	2	-	-	1
57-59 years	-	1	1	-	1
60-61 years	1	2	2	1	-
62 years and over	3	3	2	3	3
No report	-	-	-	-	-
Design:					
All ages	78	76	77	82	89
Under 35 years	25	26	23	21	28
35-39 years	16	15	14	18	17
40-49 years	20	19	21	22	25
50-54 years	11	10	12	16	12

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Design (continued):					
55-56 years	2	1	2	2	2
57-59 years	-	-	-	-	2
60-61 years	2	1	-	-	1
62 years and over	2	4	5	3	2
No report	-	-	-	-	-
Data collection, processing, and analysis:					
All ages	34	32	38	47	40
Under 35 years	14	10	14	19	14
35-39 years	5	7	4	5	5
40-49 years	7	7	12	16	15
50-54 years	4	4	4	3	2
55-56 years	1	1	2	2	-
57-59 years	2	1	2	2	4
60-61 years	1	1	-	-	-
62 years and over	-	1	-	-	-
No report	-	-	-	-	-
Natural resources operations:					
All ages	223	252	262	272	282
Under 35 years	74	93	97	84	76
35-39 years	57	58	58	62	64
40-49 years	62	70	80	92	109
50-54 years	21	18	9	15	16
55-56 years	2	6	8	8	3
57-59 years	4	3	5	6	9
60-61 years	-	1	3	2	1
62 years and over	3	3	2	3	4
No report	-	-	-	-	-
Management:					
All ages	34	34	38	44	43
Under 35 years	6	5	5	5	4
35-39 years	1	5	6	4	7
40-49 years	13	12	15	20	16
50-54 years	11	8	7	5	9
55-56 years	1	1	1	4	3
57-59 years	1	1	1	3	-
60-61 years	1	1	1	1	2
62 years and over	-	1	2	2	2
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Installation, operations, and maintenance:					
All ages	54	67	70	75	80
Under 35 years	17	23	25	23	21
35-39 years	8	7	8	12	13
40-49 years	11	17	19	21	26
50-54 years	10	9	9	6	3
55-56 years	3	3	-	4	6
57-59 years	1	4	4	3	3
60-61 years	3	3	2	3	4
62 years and over	1	1	3	3	4
No report	-	-	-	-	-
Test and evaluation:					
All ages	28	30	36	31	31
Under 35 years	10	11	15	14	13
35-39 years	4	3	6	4	5
40-49 years	8	10	10	9	8
50-54 years	1	1	1	3	3
55-56 years	1	1	-	-	-
57-59 years	4	1	-	-	-
60-61 years	-	3	4	-	-
62 years and over	-	-	-	1	2
No report	-	-	-	-	-
Planning:					
All ages	21	30	33	42	44
Under 35 years	3	5	6	8	5
35-39 years	3	5	6	9	9
40-49 years	13	11	11	16	21
50-54 years	2	5	6	6	7
55-56 years	-	2	1	-	1
57-59 years	-	1	2	2	-
60-61 years	-	-	-	-	-
62 years and over	-	1	1	1	1
No report	-	-	-	-	-
Technical assistance and consulting:					
All ages	31	32	43	50	49
Under 35 years	5	7	11	15	12
35-39 years	3	2	5	6	5
40-49 years	11	12	17	14	18
50-54 years	6	5	5	9	8

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Technical assistance and consulting (continued):					
55-56 years	-	-	2	3	-
57-59 years	2	2	1	1	3
60-61 years	1	1	2	2	2
62 years and over	3	3	-	-	1
No report	-	-	-	-	-
Production:					
All ages	29	25	26	26	23
Under 35 years	11	11	13	7	4
35-39 years	3	4	4	6	7
40-49 years	9	8	6	6	6
50-54 years	-	-	2	4	2
55-56 years	-	-	-	1	1
57-59 years	5	2	-	1	1
60-61 years	1	-	1	1	1
62 years and over	-	-	-	-	1
No report	-	-	-	-	-
Regulatory enforcement of licensing:					
All ages	13	15	15	15	15
Under 35 years	3	2	2	2	3
35-39 years	2	2	3	1	-
40-49 years	4	6	5	6	6
50-54 years	2	2	1	1	-
55-56 years	2	2	2	1	1
57-59 years	-	1	2	4	4
60-61 years	-	-	-	-	1
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Construction:					
All ages	36	36	33	35	41
Under 35 years	10	12	11	14	11
35-39 years	4	3	3	1	4
40-49 years	13	12	10	13	16
50-54 years	4	6	6	5	8
55-56 years	3	1	-	1	2
57-59 years	2	2	3	1	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Clinical practice, counseling, and ancillary medical service:					
All ages	67	73	91	91	99
Under 35 years	5	7	11	5	5
35-39 years	15	17	19	11	16
40-49 years	28	28	35	46	45
50-54 years	8	8	11	12	17
55-56 years	3	6	5	5	3
57-59 years	5	5	6	7	7
60-61 years	2	2	3	4	3
62 years and over	1	-	1	1	3
No report	-	-	-	-	-
Standards and specifications:					
All ages	7	9	7	11	11
Under 35 years	4	5	6	4	4
35-39 years	-	-	-	3	1
40-49 years	2	2	-	2	3
50-54 years	1	1	-	-	1
55-56 years	-	1	1	-	-
57-59 years	-	-	-	2	1
60-61 years	-	-	-	-	1
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Scientific and technical information:					
All ages	4	4	7	9	10
Under 35 years	-	-	2	3	4
35-39 years	1	1	1	2	1
40-49 years	3	3	3	3	4
50-54 years	-	-	-	-	1
55-56 years	-	-	1	-	-
57-59 years	-	-	-	1	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Research contract and grant administration:					
All ages	3	2	2	3	3
Under 35 years	1	-	-	-	-
35-39 years	-	-	-	2	2
40-49 years	2	2	2	1	1
50-54 years	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Research contract and grant administration (continued):					
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Teaching and training:					
All ages	4	4	5	4	5
Under 35 years	1	1	1	-	-
35-39 years	-	-	-	1	2
40-49 years	1	1	1	1	-
50-54 years	1	1	1	1	1
55-56 years	-	-	-	-	1
57-59 years	1	1	1	-	-
60-61 years	-	-	1	1	1
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Other - not elsewhere classified:					
All ages	38	47	45	61	66
Under 35 years	16	17	15	18	20
35-39 years	6	5	3	8	10
40-49 years	9	17	18	22	19
50-54 years	3	3	3	5	8
55-56 years	-	1	3	3	1
57-59 years	1	1	1	2	5
60-61 years	1	1	1	1	1
62 years and over	2	2	1	2	2
No report	-	-	-	-	-
Activity unknown:					
All ages	99	99	149	146	156
Under 35 years	22	19	33	33	32
35-39 years	12	12	22	19	24
40-49 years	42	47	61	56	64
50-54 years	18	16	22	27	23
55-56 years	4	4	5	5	8
57-59 years	-	1	5	4	5
60-61 years	1	-	1	1	-
62 years and over	-	-	-	-	-
No report	-	-	-	1	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
All other races:					
Total, all activities:					
All ages	1,517	1,576	1,523	1,516	1,555
Under 35 years	564	560	511	466	429
35-39 years	208	233	235	250	284
40-49 years	471	493	485	499	519
50-54 years	164	175	178	173	180
55-56 years	40	42	45	53	56
57-59 years	41	35	38	40	50
60-61 years	10	17	17	12	15
62 years and over	19	21	14	23	22
No report	-	-	-	-	-
Development:					
All ages	35	34	12	23	19
Under 35 years	15	14	2	5	2
35-39 years	7	7	3	5	5
40-49 years	10	10	4	10	9
50-54 years	2	2	2	1	1
55-56 years	1	-	-	1	1
57-59 years	-	1	1	1	-
60-61 years	-	-	-	-	1
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Research:					
All ages	35	42	38	43	40
Under 35 years	4	8	6	9	5
35-39 years	8	12	10	7	6
40-49 years	16	14	13	18	19
50-54 years	4	6	7	8	6
55-56 years	-	-	-	-	3
57-59 years	2	1	1	-	-
60-61 years	1	-	-	-	-
62 years and over	-	1	1	1	1
No report	-	-	-	-	-
Design:					
All ages	356	333	322	314	339
Under 35 years	154	125	116	103	89
35-39 years	44	48	48	48	66
40-49 years	93	96	93	98	107
50-54 years	37	37	41	36	41

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Design (continued):					
55-56 years	10	12	8	9	14
57-59 years	10	4	10	12	11
60-61 years	2	7	6	3	5
62 years and over	6	4	-	5	6
No report	-	-	-	-	-
Data collection, processing, and analysis:					
All ages	73	83	78	79	84
Under 35 years	10	17	20	22	28
35-39 years	8	11	12	10	13
40-49 years	26	25	19	19	18
50-54 years	16	15	14	13	13
55-56 years	2	5	5	4	3
57-59 years	7	6	3	4	4
60-61 years	2	3	4	4	2
62 years and over	2	1	1	3	3
No report	-	-	-	-	-
Natural resources operations:					
All ages	20	24	27	30	29
Under 35 years	3	6	3	5	4
35-39 years	4	3	5	6	5
40-49 years	8	11	14	13	14
50-54 years	4	4	4	4	2
55-56 years	-	-	1	2	3
57-59 years	1	-	-	-	1
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Management:					
All ages	53	48	46	49	55
Under 35 years	6	5	4	6	9
35-39 years	5	5	5	7	4
40-49 years	17	18	19	18	22
50-54 years	15	11	10	9	7
55-56 years	5	4	4	4	3
57-59 years	4	5	3	3	6
60-61 years	-	-	1	1	1
62 years and over	1	-	-	1	3
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Installation, operations, and maintenance:					
All ages	307	324	315	324	327
Under 35 years	133	140	132	129	114
35-39 years	44	41	40	53	68
40-49 years	89	97	97	91	90
50-54 years	27	30	30	30	30
55-56 years	8	9	7	10	13
57-59 years	5	5	6	8	7
60-61 years	-	1	3	1	1
62 years and over	1	1	-	2	4
No report	-	-	-	-	-
Test and evaluation:					
All ages	198	210	181	174	169
Under 35 years	109	120	93	78	67
35-39 years	31	29	29	31	33
40-49 years	45	45	41	47	54
50-54 years	9	10	10	9	9
55-56 years	2	2	4	4	-
57-59 years	1	3	3	3	4
60-61 years	-	-	-	1	2
62 years and over	1	1	1	1	-
No report	-	-	-	-	-
Planning:					
All ages	88	81	84	79	79
Under 35 years	24	20	21	18	15
35-39 years	10	13	15	15	15
40-49 years	37	33	31	28	33
50-54 years	9	10	7	9	10
55-56 years	2	-	4	4	2
57-59 years	3	2	2	1	2
60-61 years	2	-	-	1	1
62 years and over	1	3	4	3	1
No report	-	-	-	-	-
Technical assistance and consulting:					
All ages	10	13	14	14	11
Under 35 years	1	2	1	1	-
35-39 years	4	5	5	5	2
40-49 years	3	1	4	4	5
50-54 years	2	4	2	2	1

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Technical assistance and consulting (continued):					
55-56 years	-	-	1	1	1
57-59 years	-	-	-	-	1
60-61 years	-	1	1	-	-
62 years and over	-	-	-	1	1
No report	-	-	-	-	-
Production:					
All ages	18	21	18	16	17
Under 35 years	10	10	10	8	7
35-39 years	2	2	1	-	2
40-49 years	5	7	5	5	6
50-54 years	1	1	1	2	1
55-56 years	-	1	1	-	-
57-59 years	-	-	-	1	1
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Regulatory enforcement of licensing:					
All ages	3	2	3	4	4
Under 35 years	1	1	1	-	-
35-39 years	-	-	-	2	1
40-49 years	1	1	2	2	3
50-54 years	-	-	-	-	-
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	1	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Construction:					
All ages	94	100	96	94	101
Under 35 years	24	27	29	25	25
35-39 years	13	17	15	17	19
40-49 years	29	29	30	32	34
50-54 years	16	15	12	13	13
55-56 years	4	4	2	3	4
57-59 years	5	2	4	1	4
60-61 years	1	3	2	1	1
62 years and over	2	3	2	2	1
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Clinical practice, counseling, and ancillary medical service:					
All ages	13	13	11	14	15
Under 35 years	-	-	-	2	3
35-39 years	4	3	3	-	-
40-49 years	5	7	5	9	9
50-54 years	2	2	2	2	1
55-56 years	1	1	1	-	1
57-59 years	-	-	-	1	1
60-61 years	-	-	-	-	-
62 years and over	1	-	-	-	-
No report	-	-	-	-	-
Standards and specifications:					
All ages	35	32	29	28	31
Under 35 years	14	13	8	8	11
35-39 years	6	7	9	8	6
40-49 years	13	9	9	9	12
50-54 years	1	2	2	3	2
55-56 years	1	-	-	-	-
57-59 years	-	1	1	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Scientific and technical information:					
All ages	7	11	9	10	10
Under 35 years	1	2	1	2	2
35-39 years	-	3	2	2	1
40-49 years	4	5	5	5	4
50-54 years	1	-	1	-	2
55-56 years	-	-	-	1	1
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	1	1	-	-	-
No report	-	-	-	-	-
Research contract and grant administration:					
All ages	1	1	1	3	3
Under 35 years	-	-	-	1	1
35-39 years	-	-	1	2	2
40-49 years	-	-	-	-	-
50-54 years	1	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Research contract and grant administration (continued):					
55-56 years	-	1	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Teaching and training:					
All ages	5	14	17	16	14
Under 35 years	5	7	8	6	3
35-39 years	-	4	5	5	6
40-49 years	-	3	4	5	5
50-54 years	-	-	-	-	-
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Other - not elsewhere classified:					
All ages	61	65	66	65	66
Under 35 years	33	31	35	31	31
35-39 years	5	5	5	6	9
40-49 years	16	20	18	19	17
50-54 years	4	5	5	5	5
55-56 years	-	1	1	1	2
57-59 years	1	-	-	1	-
60-61 years	-	-	-	-	-
62 years and over	2	3	2	2	2
No report	-	-	-	-	-
Activity unknown:					
All ages	105	125	156	137	142
Under 35 years	17	12	21	7	13
35-39 years	13	18	22	21	21
40-49 years	54	62	72	67	58
50-54 years	13	21	28	27	36
55-56 years	4	2	6	9	5
57-59 years	2	5	4	4	8
60-61 years	1	2	-	-	1
62 years and over	1	3	3	2	-
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
No race reported:					
Total, all activities:					
All ages	170	76	54	126	14
Under 35 years	67	39	23	72	3
35-39 years	21	5	11	22	1
40-49 years	46	16	10	18	7
50-54 years	16	7	3	7	2
55-56 years	7	4	2	4	-
57-59 years	9	5	5	1	1
60-61 years	1	-	-	1	-
62 years and over	3	-	-	-	-
No report	-	-	-	1	-
Development:					
All ages	49	2	-	1	4
Under 35 years	23	1	-	-	2
35-39 years	5	-	-	-	-
40-49 years	10	1	-	1	2
50-54 years	5	-	-	-	-
55-56 years	2	-	-	-	-
57-59 years	3	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	1	-	-	-	-
No report	-	-	-	-	-
Research:					
All ages	10	5	6	6	1
Under 35 years	2	1	3	-	1
35-39 years	1	-	-	3	-
40-49 years	6	4	3	2	-
50-54 years	1	-	-	1	-
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Design:					
All ages	8	2	-	-	-
Under 35 years	3	-	-	-	-
35-39 years	2	-	-	-	-
40-49 years	1	-	-	-	-
50-54 years	-	1	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race/ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Design (continued):					
55-56 years	1	-	-	-	-
57-59 years	1	1	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Data collection, processing, and analysis:					
All ages	3	2	1	1	-
Under 35 years	2	2	-	1	-
35-39 years	-	-	1	-	-
40-49 years	1	-	-	-	-
50-54 years	-	-	-	-	-
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Natural resources operations:					
All ages	-	-	-	-	-
Under 35 years	-	-	-	-	-
35-39 years	-	-	-	-	-
40-49 years	-	-	-	-	-
50-54 years	-	-	-	-	-
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Management:					
All ages	11	-	-	3	1
Under 35 years	3	-	-	1	-
35-39 years	2	-	-	-	-
40-49 years	2	-	-	2	1
50-54 years	1	-	-	-	-
55-56 years	-	-	-	-	-
57-59 years	3	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Installation, operations, and maintenance:					
All ages	7	11	3	2	1
Under 35 years	4	8	1	-	-
35-39 years	-	-	1	1	-
40-49 years	-	-	-	1	1
50-54 years	-	-	-	-	-
55-56 years	3	1	-	-	-
57-59 years	-	2	1	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Test and evaluation:					
All ages	1	3	2	7	-
Under 35 years	-	2	-	-	-
35-39 years	-	-	1	3	-
40-49 years	-	1	1	2	-
50-54 years	-	-	-	1	-
55-56 years	-	-	-	1	-
57-59 years	1	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Planning:					
All ages	5	3	3	1	-
Under 35 years	3	3	3	1	-
35-39 years	-	-	-	-	-
40-49 years	2	-	-	-	-
50-54 years	-	-	-	-	-
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Technical assistance and consulting:					
All ages	-	1	-	-	-
Under 35 years	-	-	-	-	-
35-39 years	-	-	-	-	-
40-49 years	-	1	-	-	-
50-54 years	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

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Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Technical assistance and consulting (continued):					
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Production:					
All ages	-	-	-	-	-
Under 35 years	-	-	-	-	-
35-39 years	-	-	-	-	-
40-49 years	-	-	-	-	-
50-54 years	-	-	-	-	-
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Regulatory enforcement of licensing:					
All ages	1	2	7	5	-
Under 35 years	-	2	2	2	-
35-39 years	-	-	2	-	-
40-49 years	1	-	3	3	-
50-54 years	-	-	-	-	-
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Construction:					
All ages	9	5	1	1	1
Under 35 years	4	3	-	-	-
35-39 years	1	-	-	-	-
40-49 years	1	-	-	-	-
50-54 years	2	2	-	-	-
55-56 years	-	-	1	1	-
57-59 years	-	-	-	-	1
60-61 years	-	-	-	-	-
62 years and over	1	-	-	-	-
No report	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Page 47 of 48

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Clinical practice, counseling, and ancillary medical service:					
All ages	12	11	9	1	2
Under 35 years	2	3	3	-	-
35-39 years	3	1	1	1	-
40-49 years	5	5	2	-	1
50-54 years	1	1	2	-	1
55-56 years	-	-	-	-	-
57-59 years	1	1	1	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Standards and specifications:					
All ages	-	1	-	-	-
Under 35 years	-	-	-	-	-
35-39 years	-	-	-	-	-
40-49 years	-	-	-	-	-
50-54 years	-	1	-	-	-
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Scientific and technical information:					
All ages	1	-	-	1	-
Under 35 years	-	-	-	-	-
35-39 years	1	-	-	-	-
40-49 years	-	-	-	-	-
50-54 years	-	-	-	1	-
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Research contract and grant administration:					
All ages	1	-	-	-	-
Under 35 years	1	-	-	-	-
35-39 years	-	-	-	-	-
40-49 years	-	-	-	-	-
50-54 years	-	-	-	-	-

See explanatory information, if any, and SOURCE at end of table.

Table B-12. Federal scientists and engineers, by race ethnicity, primary work activity, and age: 1989-93

Race/ethnicity, primary work activity, and age	1989	1990	1991	1992	1993
Research contract and grant administration (continued):					
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Teaching and training:					
All ages	-	-	-	-	-
Under 35 years	-	-	-	-	-
35-39 years	-	-	-	-	-
40-49 years	-	-	-	-	-
50-54 years	-	-	-	-	-
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Other - not elsewhere classified:					
All ages	6	2	1	1	-
Under 35 years	5	2	1	1	-
35-39 years	1	-	-	-	-
40-49 years	-	-	-	-	-
50-54 years	-	-	-	-	-
55-56 years	-	-	-	-	-
57-59 years	-	-	-	-	-
60-61 years	-	-	-	-	-
62 years and over	-	-	-	-	-
No report	-	-	-	-	-
Activity unknown:					
All ages	46	26	21	96	4
Under 35 years	15	12	10	66	-
35-39 years	5	4	5	14	1
40-49 years	17	4	1	7	2
50-54 years	6	2	1	4	1
55-56 years	1	3	1	2	-
57-59 years	-	1	3	1	-
60-61 years	1	-	-	1	-
62 years and over	1	-	-	-	-
No report	-	-	-	1	-

KEY: "-" = Zero

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-13. Median annual salaries of Federal scientists and engineers, by major occupational group and highest degree level: 1989-93

Page 1 of 3

Major occupational group and highest degree level	1989	1990	1991	1992	1993
TotaL, All Occupations					
All levels	$41,100	$42,800	$45,900	$47,900	$50,100
Ph.D	50,100	52,300	54,700	57,100	60,400
MS/MA	44,000	45,800	48,500	50,600	52,500
BS/BA	39,300	41,200	44,300	46,600	48,300
Professional	42,700	44,100	47,200	50,000	52,300
All scientists:					
All levels	40,400	42,000	44,400	46,200	48,100
Ph.D	49,200	51,100	54,100	56,500	59,100
MS/MA	41,200	42,800	44,700	46,800	49,400
BS/BA	37,500	38,900	41,000	42,600	44,500
Professional	42,300	43,500	45,400	47,800	51,000
Computer and mathematical sciences:					
All levels	42,100	43,900	45,900	48,000	49,900
Ph.D	50,200	52,700	56,200	59,600	62,300
MS/MA	44,900	46,500	48,700	50,800	52,600
BS/BA	41,000	42,600	44,600	46,700	48,300
Professional	44,000	45,500	48,400	50,500	52,200
Life sciences:					
All levels	35,300	36,700	38,400	40,100	42,600
Ph.D	45,300	47,100	48,800	50,900	54,400
MS/MA	35,800	37,000	39,300	41,200	42,900
BS/BA	32,700	33,900	35,200	36,800	39,200
Professional	39,200	40,300	41,300	45,400	48,000
Physical sciences:					
All levels	43,800	45,300	47,300	49,800	52,300
Ph.D	53,300	55,400	57,700	60,100	62,500
MS/MA	42,500	44,100	47,200	49,300	52,300
BS/BA	39,200	39,400	42,300	44,200	46,000
Professional	47,200	46,500	48,600	50,900	54,500
Social sciences:					
All levels	41,000	42,600	44,400	46,100	48,000
Ph.D	48,500	51,000	53,200	55,500	58,400
MS/MA	40,200	41,900	43,400	45,400	47,100
BS/BA	35,800	37,500	38,600	40,000	41,700
Professional	41,200	42,600	45,400	47,700	50,900
All engineers:					
All levels	42,000	43,600	47,100	49,300	52,300
Ph.D	53,500	56,900	59,600	63,500	66,200
MS/MA	46,800	49,000	51,900	54,500	56,500
BS/BA	40,300	42,400	45,700	48,000	50,800
Professional	43,400	45,700	48,900	51,800	54,400

See explanatory information, if any, and SOURCE at end of table.

Table B-13. Median annual salaries of Federal scientists and engineers, by major occupational group and highest degree level: 1989-93

Page 2 of 3

Major occupational group and highest degree level	1989	1990	1991	1992	1993
Aerospace:					
All levels	45,200	47,000	48,900	51,900	54,400
Ph.D	55,100	57,100	61,100	64,800	67,900
MS/MA	50,200	52,100	54,700	57,100	59,000
BS/BA	41,200	43,600	46,000	49,300	52,500
Professional	43,900	46,000	48,700	55,200	C
Chemical:					
All levels	39,800	42,000	45,800	48,100	51,000
Ph.D	48,000	51,000	54,400	56,900	59,800
MS/MA	42,300	43,700	47,100	50,700	52,500
BS/BA	38,700	40,600	43,500	46,700	49,400
Professional	C	C	C	C	C
Civil:					
All levels	41,100	42,700	45,900	48,000	49,900
Ph.D	53,400	55,400	57,800	60,100	62,100
MS/MA	43,300	45,000	48,600	50,700	52,700
BS/BA	41,000	42,600	44,800	46,800	49,700
Professional	41,100	42,500	45,900	48,600	51,200
Electrical, electronics, and computer:					
All levels	41,100	43,200	46,100	49,300	52,200
Ph.D	53,300	55,500	57,800	60,800	62,400
MS/MA	47,800	49,600	52,100	54,600	56,500
BS/BA	39,600	42,300	44,800	47,900	49,900
Professional	44,500	47,100	49,800	52,200	54,500
Industrial:					
All levels	38,800	41,200	43,500	46,600	48,300
Ph.D	48,000	51,800	C	C	C
MS/MA	42,200	44,900	48,300	50,500	52,500
BS/BA	37,900	40,000	42,700	45,400	47,100
Professional	C	C	C	C	C
Mechanical:					
All levels	38,800	40,700	44,300	46,700	49,200
Ph.D	52,600	53,900	57,500	59,900	62,300
MS/MA	43,500	45,400	48,600	50,700	52,600
BS/BA	38,300	40,100	43,300	46,200	48,200
Professional	39,800	41,200	45,900	48,100	51,000

See explanatory information, if any, and SOURCE at end of table.

Table B-13. Median annual salaries of Federal scientists and engineers, by major occupational group and highest degree level: 1989-93

Page 3 of 3

Major occupational group and highest degree level	1989	1990	1991	1992	1993
Other engineering:					
All levels	45,100	47,100	49,800	51,900	54,300
Ph.D	56,700	59,600	62,700	65,400	68,000
MS/MA	49,200	51,100	54,300	56,900	59,100
BS/BA	42,500	44,900	48,000	50,600	52,600
Professional	45,400	49,700	52,600	55,500	57,500

NOTES: Salaries rounded to the nearest hundred

Figures are based on payable salaries for 1989-91 and on adjusted basic pay for 1992-93

KEY: "C" = Data suppressed to preserve confidentiality

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-14. Federal personnel with bachelor's degrees or higher, by highest degree field and science and engineering (S&E) employment status: 1989-93

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Highest degree field	1989			1990			1991		
	Total employed	Employed in S&E occupations	Employed outside S&E occupations	Total employed	Employed in S&E occupations	Employed outside S&E occupations	Total employed	Employed in S&E occupations	Employed outside S&E occupations
Total, All Fields	687,550	185,623	501,927	704,195	189,049	515,146	733,169	194,726	538,443
Science and engineering	312,599	158,157	154,442	320,518	161,556	158,962	330,870	165,423	165,447
Physical sciences	31,810	21,501	10,309	32,339	21,867	10,472	32,770	22,053	10,717
Computer and mathematical sciences	24,779	13,505	11,274	25,984	14,218	11,766	27,231	14,931	12,300
Life sciences	65,194	22,108	43,086	66,668	22,850	43,818	69,172	23,711	45,461
Social sciences	84,558	14,773	69,785	87,107	15,333	71,774	91,573	16,403	75,170
Engineering	106,258	86,270	19,988	108,420	87,288	21,132	110,124	88,325	21,799
Non-S&E	370,514	25,668	344,846	381,822	27,042	354,780	396,962	28,713	368,249
No report	4,437	1,798	2,639	1,855	451	1,404	5,337	590	4,747

See explanatory information, if any, and SOURCE at end of table.

Table B-14. Federal personnel with bachelor's degrees or higher by highest degree field and science and engineering (S&E) employment status: 1989-93

Page 2 of 2

Highest degree field	1992			1993		
	Total employed	Employed in S&E occupations	Employed outside S&E occupations	Total employed	Employed in S&E occupations	Employed outside S&E occupations
Total, All Fields	745,600	198,853	546,747	737,928	196,908	541,020
Science and engineering	336,858	168,147	168,711	332,494	165,538	166,956
Physical sciences	33,101	22,263	10,838	32,613	21,914	10,699
Computer and mathematical sciences	28,074	15,474	12,600	28,031	15,591	12,440
Life sciences	71,354	24,738	46,616	70,650	24,541	46,109
Social sciences	93,553	17,294	76,259	92,701	17,315	75,386
Engineering	110,776	88,378	22,398	108,499	86,177	22,322
Non-S&E	406,982	30,161	376,821	403,279	30,662	372,617
No report	1,760	545	1,215	2,155	708	1,447

KEY: S&E = Science and engineering

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

Table B-15. Federal scientists and engineers, by agency and major occupational group: 1989-93

Page 1 of 9

Agency and major occupational group	1989	1990	1991	1992	1993
Total, All Agencies	185,623	189,049	194,726	198,853	196,908
Department of Agriculture:					
Total	16,875	17,068	17,475	18,073	17,764
All scientists	14,576	14,782	15,179	15,761	15,535
Computer and mathematical sciences	1,088	1,158	1,300	1,346	1,347
Life sciences	10,456	10,554	10,739	11,213	11,076
Physical sciences	1,443	1,434	1,429	1,432	1,385
Social sciences	1,589	1,636	1,711	1,770	1,727
All engineers	2,299	2,286	2,296	2,312	2,229
Aerospace	-	-	-	-	-
Chemical	38	39	35	37	40
Civil	1,659	1,648	1,661	1,641	1,561
Electrical, electronics, and computer	80	87	84	92	99
Industrial	12	13	10	8	6
Mechanical	39	37	37	37	38
Other engineering	471	462	469	497	485
Department of Commerce:					
Total	7,768	8,006	8,312	8,660	8,766
All scientists	7,035	7,250	7,563	7,874	7,930
Computer and mathematical sciences	2,302	2,344	2,500	2,622	2,617
Life sciences	673	718	774	862	844
Physical sciences	3,252	3,411	3,507	3,604	3,694
Social sciences	808	777	782	786	775
All engineers	733	756	749	786	836
Aerospace	2	3	3	4	3
Chemical	51	49	34	34	37
Civil	47	50	53	55	56
Electrical, electronics, and computer	353	374	376	401	416
Industrial	9	9	8	10	11
Mechanical	107	112	111	107	115
Other engineering	164	159	164	175	198
Department of Defense:					
Total	94,194	93,949	94,042	94,213	92,163
All scientists	26,877	27,051	27,621	26,373	28,264
Computer and mathematical sciences	14,042	14,329	14,475	14,752	14,718
Life sciences	2,118	2,169	2,425	2,666	2,772
Physical sciences	6,614	6,514	6,392	6,411	6,210
Social sciences	4,103	4,039	4,329	4,544	4,564

See explanatory information, if any, and SOURCE at end of table.

Table B-15. Federal scientists and engineers, by agency and major occupational group: 1989-93

Page 2 of 9

Agency and major occupational group	1989	1990	1991	1992	1993
Department of Defense (continued):					
All engineers	67,317	66,898	66,421	65,840	63,899
Aerospace	3,929	4,004	3,980	3,836	3,709
Chemical	894	836	789	754	710
Civil	8,974	8,592	8,202	8,033	7,831
Electrical, electronics, and computer	24,812	25,400	25,773	25,841	25,346
Industrial	3,142	3,087	2,825	2,653	2,371
Mechanical	11,006	10,555	10,395	10,134	9,778
Other engineering	14,560	14,424	14,457	14,589	14,154
Department of the Army:					
Total	34,957	34,271	34,295	34,192	33,300
All scientists	11,285	11,169	11,559	11,606	11,363
Computer and mathematical sciences	4,821	4,792	4,815	4,766	4,625
Life sciences	1,416	1,461	1,669	1,839	1,886
Physical sciences	2,658	2,640	2,646	2,641	2,554
Social sciences	2,390	2,276	2,429	2,360	2,298
All engineers	23,672	23,102	22,736	22,586	21,937
Aerospace	730	723	700	648	611
Chemical	444	420	384	377	367
Civil	7,200	6,932	6,664	6,639	6,522
Electrical, electronics, and computer	5,494	5,553	5,667	5,639	5,558
Industrial	988	922	809	775	717
Mechanical	3,284	3,144	3,105	3,051	2,939
Other engineering	5,532	5,408	5,407	5,457	5,223
Department of the Navy:					
Total	39,076	39,264	39,155	38,892	37,650
All scientists	9,082	9,303	9,126	9,274	9,140
Computer and mathematical sciences	5,338	5,545	5,438	5,463	5,334
Life sciences	225	242	264	306	346
Physical sciences	2,669	2,661	2,528	2,499	2,420
Social sciences	850	855	896	1,006	1,040
All engineers	29,994	29,961	30,029	29,618	28,510
Aerospace	1,499	1,523	1,530	1,500	1,466
Chemical	359	333	329	295	267
Civil	1,187	1,089	1,000	921	871
Electrical, electronics, and computer	13,067	13,384	13,606	13,595	13,118
Industrial	1,078	1,062	1,022	948	816
Mechanical	6,375	6,115	6,028	5,886	5,706
Other engineering	6,429	6,455	6,514	6,473	6,266

See explanatory information, if any, and SOURCE at end of table.

Table B-15. Federal scientists and engineers, by agency and major occupational group: 1989-93

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Agency and major occupational group	1989	1990	1991	1992	1993
Department of the Air Force:					
Total	16,502	16,267	16,063	16,273	16,281
All scientists	4,516	4,605	4,579	4,935	5,068
Computer and mathematical sciences	2,686	2,700	2,578	2,682	2,720
Life sciences	196	201	221	257	310
Physical sciences	883	883	880	922	905
Social sciences	751	821	900	1,074	1,133
All engineers	11,986	11,662	11,484	11,338	11,213
Aerospace	1,675	1,595	1,602	1,550	1,487
Chemical	80	72	64	70	65
Civil	557	536	503	438	408
Electrical, electronics, and computer	5,564	5,642	5,617	5,646	5,713
Industrial	795	671	613	563	507
Mechanical	1,166	1,111	1,075	1,006	938
Other engineering	2,149	2,035	2,010	2,065	2,095
Other Defense Agencies:					
Total	3,659	4,147	4,529	4,856	4,932
All scientists	1,994	1,974	2,357	2,558	2,693
Computer and mathematical sciences	1,197	1,292	1,644	1,841	2,039
Life sciences	281	265	271	264	230
Physical sciences	404	330	338	349	331
Social sciences	112	87	104	104	93
All engineers	1,665	2,173	2,172	2,298	2,239
Aerospace	25	163	148	138	145
Chemical	11	11	12	12	11
Civil	30	35	35	35	30
Electrical, electronics, and computer	687	821	883	961	957
Industrial	281	432	381	367	331
Mechanical	181	185	187	191	195
Other engineering	450	526	526	594	570
Department of Energy:					
Total	3,838	4,106	4,809	5,302	5,132
All scientists	1,426	1,545	1,788	1,955	1,926
Computer and mathematical sciences	362	364	394	428	440
Life sciences	168	207	292	337	352
Physical sciences	653	736	848	925	885
Social sciences	243	238	254	265	249
All engineers	2,412	2,561	3,021	3,347	3,206
Aerospace	-	-	-	-	1
Chemical	124	101	102	100	89
Civil	272	272	296	319	302
Electrical, electronics, and computer	684	676	732	753	723
Industrial	29	36	38	60	59
Mechanical	139	134	187	200	172
Other engineering	1,164	1,342	1,666	1,915	1,860

See explanatory information, if any, and SOURCE at end of table.

Table B-15. Federal scientists and engineers, by agency and major occupational group: 1989-93

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Agency and major occupational group	1989	1990	1991	1992	1993
Department of Health & Human Services:					
Total	8,121	8,734	9,244	9,683	9,614
All scientists	7,782	8,335	8,797	9,180	9,116
Computer and mathematical sciences	1,895	2,055	2,204	2,367	2,498
Life sciences	2,722	2,958	3,163	3,286	3,181
Physical sciences	2,087	2,202	2,272	2,285	2,187
Social sciences	1,078	1,120	1,158	1,242	1,250
All engineers	339	399	447	503	498
Aerospace	-	1	1	1	1
Chemical	15	17	19	19	17
Civil	11	12	12	15	19
Electrical, electronics, and computer	92	107	125	139	135
Industrial	15	15	20	22	24
Mechanical	57	62	66	76	82
Other engineering	149	185	204	231	220
Department of Housing & Urban Development:					
Total	390	395	431	457	440
All scientists	223	230	256	289	283
Computer and mathematical sciences	88	94	107	136	136
Life sciences	39	36	41	39	37
Physical sciences	-	-	-	-	-
Social sciences	96	100	108	114	110
All engineers	167	165	175	168	157
Aerospace	-	-	-	-	-
Chemical	-	-	-	-	-
Civil	20	20	19	19	19
Electrical, electronics, and computer	-	-	-	-	-
Industrial	-	-	2	2	1
Mechanical	5	5	6	5	5
Other engineering	142	140	148	142	132
Department of the Interior:					
Total	11846	12046	12502	13142	13450
All scientists	9152	9335	9775	10384	10681
Computer and mathematical sciences	601	628	672	744	780
Life sciences	3668	3848	4133	4577	4835
Physical sciences	4400	4369	4438	4498	4487
Social sciences	483	490	532	565	579
All engineers	2,694	2,711	2,727	2,758	2,769
Aerospace	1	1	1	1	1
Chemical	110	102	102	100	101
Civil	1,246	1,283	1,284	1,292	1,291
Electrical, electronics, and computer	292	309	310	318	314
Industrial	15	15	19	20	17
Mechanical	179	190	201	200	202
Other engineering	851	811	810	827	843

See explanatory information, if any, and SOURCE at end of table.

Table B-15. Federal scientists and engineers, by agency and major occupational group: 1989-93

Agency and major occupational group	1989	1990	1991	1992	1993
Department of Justice:					
Total	1,579	1,752	2,026	2,380	2,583
All scientists	1,513	1,682	1,946	2,292	2,494
Computer and mathematical sciences	332	363	437	465	506
Life sciences	3	2	3	5	4
Physical sciences	189	190	195	217	221
Social sciences	989	1,127	1,311	1,605	1,763
All engineers	66	70	80	88	89
Aerospace	-	-	-	-	-
Chemical	-	-	-	-	-
Civil	4	2	5	4	5
Electrical, electronics, and computer	41	44	48	53	54
Industrial	1	2	3	4	2
Mechanical	15	16	18	19	19
Other engineering	5	6	6	8	9
Department of Labor:					
Total	1,891	1,926	2,072	2,167	2,141
All scientists	1,617	1,648	1,801	1,898	1,879
Computer and mathematical sciences	342	343	371	386	410
Life sciences	-	-	-	-	-
Physical sciences	85	82	81	76	75
Social sciences	1,190	1,223	1,349	1,436	1,394
All engineers	274	278	271	269	262
Aerospace	-	-	-	-	-
Chemical	6	6	6	5	5
Civil	24	26	27	23	26
Electrical, electronics, and computer	50	50	48	48	44
Industrial	82	90	82	79	75
Mechanical	14	15	16	17	15
Other engineering	98	91	92	97	97
Department of State:					
Total	2,877	3,049	3,218	3,424	3,401
All scientists	2,682	2,849	3,015	3,211	3,192
Computer and mathematical sciences	119	145	156	160	103
Life sciences	1	-	-	-	-
Physical sciences	39	45	38	40	43
Social sciences	2,523	2,659	2,821	3,011	3,046
All engineers	195	200	203	213	209
Aerospace	-	-	-	-	-
Chemical	-	-	-	-	-
Civil	54	53	56	59	60
Electrical, electronics, and computer	132	137	134	138	134
Industrial	-	-	-	-	-
Mechanical	5	7	9	12	11
Other engineering	4	3	4	4	4

See explanatory information, if any, and SOURCE at end of table.

Table B-15. Federal scientists and engineers, by agency and major occupational group: 1989-93

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Agency and major occupational group	1989	1990	1991	1992	1993
Department of Transportation:					
Total	4,580	4,763	5,101	5,403	5,462
All scientists	829	914	1,002	1,113	1,177
Computer and mathematical sciences	556	611	679	743	780
Life sciences	45	44	47	69	74
Physical sciences	62	63	60	66	65
Social sciences	166	196	216	235	258
All engineers	3,751	3,849	4,099	4,290	4,285
Aerospace	362	379	397	385	382
Chemical	12	8	6	5	5
Civil	1,422	1,427	1,486	1,511	1,449
Electrical, electronics, and computer	1,090	1,120	1,257	1,326	1,345
Industrial	27	26	30	26	25
Mechanical	145	153	170	185	181
Other engineering	693	736	753	852	898
Department of the Treasury:					
Total	2,516	2,664	3,103	3,320	3,461
All scientists	2,108	2,242	2,636	2,847	3,000
Computer and mathematical sciences	1,420	1,552	1,837	2,026	2,188
Life sciences	-	-	-	-	1
Physical sciences	180	183	209	202	199
Social sciences	508	507	590	619	612
All engineers	408	422	467	473	461
Aerospace	1	1	-	-	1
Chemical	2	6	6	7	7
Civil	4	4	3	4	3
Electrical, electronics, and computer	41	37	43	45	46
Industrial	37	40	40	37	35
Mechanical	42	44	44	42	44
Other engineering	281	290	331	338	325
Department of Veterans Affairs:					
Total	4,401	4,614	4,902	5,109	5,355
All scientists	3,615	3,830	4,096	4,291	4,508
Computer and mathematical sciences	570	621	668	725	769
Life sciences	587	596	614	630	632
Physical sciences	562	554	539	515	492
Social sciences	1,896	2,059	2,275	2,421	2,615

See explanatory information, if any, and SOURCE at end of table.

Table B-15. Federal scientists and engineers, by agency and major occupational group: 1989-93

Agency and major occupational group	1989	1990	1991	1992	1993
Department of Veterans Affairs (continued):					
All engineers	786	784	806	818	847
Aerospace	-	-	-	-	-
Chemical	-	-	-	-	-
Civil	20	18	15	18	16
Electrical, electronics, and computer	41	37	42	47	40
Industrial	32	23	28	28	33
Mechanical	34	31	34	31	36
Other engineering	659	675	687	694	722
Environmental Protection Agency:					
Total	6,503	7,223	7,810	7,887	8,061
All scientists	4,469	5,041	5,454	5,521	5,633
Computer and mathematical sciences	236	273	306	337	338
Life sciences	2,129	2,413	2,595	2,620	2,676
Physical sciences	2,029	2,278	2,468	2,475	2,530
Social sciences	75	77	85	89	89
All engineers	2,034	2,182	2,356	2,366	2,428
Aerospace	-	-	-	-	-
Chemical	178	182	173	181	169
Civil	6	7	7	9	6
Electrical, electronics, and computer	14	14	16	14	15
Industrial	4	2	2	2	3
Mechanical	80	89	108	108	105
Other engineering	1,752	1,888	2,050	2,052	2,130
General Services Administration:					
Total	741	827	924	922	978
All scientists	299	320	362	372	408
Computer and mathematical sciences	262	285	325	338	376
Life sciences	1	1	2	-	1
Physical sciences	34	33	32	31	28
Social sciences	2	1	3	3	3
All engineers	442	507	562	550	570
Aerospace	-	-	-	-	-
Chemical	2	1	2	1	2
Civil	73	103	123	114	125
Electrical, electronics, and computer	97	101	108	107	113
Industrial	24	27	30	32	31
Mechanical	119	137	149	143	138
Other engineering	127	138	150	153	161

See explanatory information, if any, and SOURCE at end of table.

Table B-15. Federal scientists and engineers, by agency and major occupational group: 1989-93

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Agency and major occupational group	1989	1990	1991	1992	1993
National Aeronautics & Space Administration:					
Total	11,920	12,277	12,802	12,665	12,424
All scientists	1,508	1,521	1,560	1,542	1,490
Computer and mathematical sciences	490	481	481	460	420
Life sciences	53	56	62	65	66
Physical sciences	930	952	981	981	968
Social sciences	35	32	36	36	36
All engineers	10,412	10,756	11,242	11,123	10,934
Aerospace	4,128	4,222	4,382	4,341	4,215
Chemical	53	50	52	54	51
Civil	8	8	8	5	5
Electrical, electronics, and computer	2,918	3,021	3,233	3,207	3,141
Industrial	13	13	15	14	17
Mechanical	135	134	139	136	137
Other engineering	3,157	3,308	3,413	3,366	3,368
National Science Foundation:					
Total	377	389	362	364	328
All scientists	330	338	315	320	293
Computer and mathematical sciences	78	83	75	76	69
Life sciences	49	54	53	59	52
Physical sciences	119	132	119	118	105
Social sciences	84	69	68	67	67
All engineers	47	51	47	44	35
Aerospace	-	-	-	-	-
Chemical	3	4	5	4	3
Civil	6	5	6	6	5
Electrical, electronics, and computer	3	4	3	2	2
Industrial	1	1	1	1	-
Mechanical	5	3	2	3	3
Other engineering	29	34	30	28	22
Nuclear Regulatory Commission:					
Total	1,457	1,466	1,590	1,620	1,593
All scientists	405	422	439	457	446
Computer and mathematical sciences	43	43	48	49	46
Life sciences	1	1	1	1	-
Physical sciences	330	349	359	378	372
Social sciences	31	29	31	29	28
All engineers	1,052	1,044	1,151	1,163	1,147
Aerospace	-	-	-	-	-
Chemical	12	9	11	8	7
Civil	26	23	26	25	24
Electrical, electronics, and computer	36	35	51	49	50
Industrial	5	5	5	4	3
Mechanical	35	38	46	47	45
Other engineering	938	934	1,012	1,030	1,018

See explanatory information, if any, and SOURCE at end of table.

Table B-15. Federal scientists and engineers, by agency and major occupational group: 1989-93

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Agency and major occupational group	1989	1990	1991	1992	1993
US International Development Cooperation Agency:					
Total	585	556	520	480	470
All scientists	532	517	484	446	443
Computer and mathematical sciences	40	42	40	38	40
Life sciences	223	203	188	175	162
Physical sciences	15	15	13	12	11
Social sciences	254	257	243	221	230
All engineers	53	39	36	34	27
Aerospace	-	-	-	-	-
Chemical	-	-	-	-	-
Civil	6	4	3	3	1
Electrical, electronics, and computer	1	1	1	1	-
Industrial	1	1	1	1	-
Mechanical	-	-	1	-	-
Other engineering	45	33	30	29	26
All other agencies:					
Total	3,164	3,239	3,481	3,582	3,322
All scientists	2,552	2,615	2,830	2,880	2,650
Computer and mathematical sciences	871	911	1,135	1,173	1,110
Life sciences	146	149	148	161	155
Physical sciences	181	183	160	161	161
Social sciences	1,354	1,372	1,387	1,385	1,224
All engineers	612	624	651	702	672
Aerospace	10	13	13	16	17
Chemical	3	3	2	2	2
Civil	63	64	65	76	70
Electrical, electronics, and computer	344	345	369	374	357
Industrial	14	14	14	13	12
Mechanical	25	25	24	30	33
Other engineering	153	160	164	191	181

KEY: "-" = Zero

SOURCE: National Science Foundation tabulations from Office of Personnel Management's Central Personnel Data Files

NATIONAL SCIENCE FOUNDATION
ARLINGTON, VA 22230

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